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FINANCIAL MISREPORTING PERIOD AND INVESTOR REACTION TO SECURITIES LITIGATION

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ABSTRACT: This study investigates the relation between financial misreporting period and investor reaction to securities litigation announcement. A sample of 301 securities lawsuits between 1996 and 2005 is used in the regression of investor reaction around securities litigation on financial misreporting period and other variables. A negative relation is reported between financial misreporting period and the investor reaction to securities litigation announcement, which suggests that the longer the concealment period, the more the market perceives a securities fraud lawsuit as being meritorious. Our findings imply that the market losses associated with securities litigation can be mitigated if the misstating firms release negative earnings-related news in a timely manner. The results of this study contribute to our understanding of the investor reaction to securities litigation and also provide support for regulation that enhances the timeliness of material event disclosures.

Key words: Disclosure, Investor Reaction, Misreporting, Securities Litigation.

INTRODUCTION

Since the Private Securities Litigation Reform Act (PSLRA) was enacted in 1995, a majority of securities lawsuits have been centered on accounting allegations (Cornerstone Research, 2008).[1] Many of the accounting-related securities lawsuits were triggered by accounting irregularities and frauds, which resulted in settlements and market losses running into billions of dollars in some cases (Simmons and Ryan, 2008).

The legal system routinely levies large monetary penalties on sued firms but the legal penalties are substantially lower than the penalties imposed by the market (Karpoff et al., 2008). Simmons and Ryan (2008) document total lawsuit settlements in 2007 to be $6.962 billion dollars while Cornerstone (2008) reports that market losses associated with securities lawsuits were approximately $669 billion in 2007.

According to Griffin et al (2004) and Gande and Lewis (2009), the investor reaction around the announcement of a securities lawsuit is an important component of lawsuit-related market losses and the economic effect of a lawsuit. Studies such as Ferris and Pritchard (2001) report an average three-day excess return of -3.47 percent while Griffin et al (2004) report a mean three-day excess return of -7.2 percent around the announcement of securities lawsuit induced by accounting misstatement.

Investor reaction to securities lawsuit triggered by accounting misstatement is perceived as deterring financial misreporting and enhancing the quality of financial reports (Fuerman, 2012). The literature provides some evidence of a negative valuation effect around accounting-related

securities lawsuit announcement after the PSLRA but there is limited evidence on the factors that explain the cross-sectional variation in the announcement returns (Gande and Lewis, 2009).

The financial misreporting period may influence investor perception of the severity of negative earnings-related news, which in turn could impact the market's perception of investor losses associated with a lawsuit. When a firm delays the disclosure of negative earnings-related news, its stock price is inflated over the concealment period and on the revelation of the true financial condition of the firm, shareholders could incur substantial losses (Bardos, Golec and Harding, 2011). Management of a sued firm has a duty to promptly disclose material adverse information and failure to do so in a timely manner may be perceived as an indication of intent to perpetrate fraud.[2] Following the passage of the PSLRA, securities lawsuits are required to show intent to commit fraud or scienter to avoid dismissal, thus financial misreporting period could influence the perceived merit of a lawsuit as well as the investor perception of shareholder losses.

Using a sample of 301 accounting-related securities lawsuit filings between 1996 and 2005, this study examines the relation between financial misreporting period and investor reaction to accounting-related litigation announcement. The empirical results indicate a negative relation between financial misreporting period and investor reaction to litigation announcement.

This study adds to our knowledge of factors that explain the cross-sectional variation in investor reaction to securities lawsuit. The study complements and extends the literature on the reputational consequences of financial misreporting such as Alexander (1999) and Fich and Shivdasani (2007). The findings of this study suggest that the longer the concealment period, the more the market perceives a securities fraud lawsuit as being meritorious. Accordingly, the results of this study provide support for regulation that enhances the timeliness of material event disclosures.

The remainder of this study is organized as follows. In section 2, we review related literature and develop the hypothesis. Section 3 describes the research design. Section 4 describes the empirical results and Section 5 presents the summary and conclusion.

LITERATURE REVIEW AND HYPOTHESIS

This section reviews literature related to financial misreporting period and investor reaction to accounting-related lawsuit announcements. According to McTier and Wald (2011), a securities lawsuit reflects an agency problem between a firm's managers and its owners and the threat of a lawsuit filing as well as the market reaction to the lawsuit constrains financial misreporting by firms. Generally, accounting-related lawsuits allege losses to purchasers of the defendant firm's stock as a result of a SEC Rule 10b-5 violation and the lawsuit filing indicates the period over which the alleged intentional misreporting occurred.[3] The following securities lawsuit filing against Universal Health Services, Inc. is an example:

"On March 22, 2004, a securities lawsuit was brought on behalf of purchasers of the stock of Universal Health Services, Inc. The complaint alleges that the Company and certain of its officers and directors violated sections 10(b) of the Securities Exchange Act of 1934, and Rule 10b-[5] promulgated thereunder, by issuing a series of material misrepresentations to the market. Specifically, the complaint alleges that starting on July 21, 2003 and continuing through February 27, 2004, defendants issued public statements about the Company, its financial performance and future business prospects that omitted to disclose certain material adverse facts, thereby inflating the price of UHS stock. Further, the complaint alleges that on March 1, 2004, before the markets opened, defendants shocked investors by revealing the material adverse information. On this news, the price of UHS shares fell $9.05, or 17%, to $44.88."

Given that managers have access to negative earnings-related news about the firm and they determine when to release such information (Skinner, 1994; Field, Lowry and Shu, 2005), a longer financial misreporting period may be perceived by the market as strengthening the

inference of fraud thereby increasing the likelihood of lawsuit settlement, which is consistent with the requirements of the PSLRA (Martin and Narz, 2005; Amoah and Tang, 2010).[4] A longer misreporting period implies that some investors relied on inflated earnings over an extended period and may have incurred larger losses, which could result in higher claims by investors upon revelation of the adverse earnings-related news.

According to prior studies, a longer financial misreporting period may also be perceived by the market as increasing the expected costs associated with the securities lawsuit. Gande and Lewis (2009) argue that investor reaction to lawsuits is based on the market's estimation and capitalization of the settlement amount and other lawsuit-related costs while Badertscher and Burks (2012) note that financial misreporting period is associated with market losses because it is the period during which purchasers of the firm's stock were misled. Field, Lowry and Shu (2005) argue that early disclosure of negative news to the market reduces the period during which purchasers of the misstating firm's stock incur damages, which in turn results in lower litigation costs. Consistent with the view that the misreporting period is associated with lawsuit costs, Dutta and Nelson (1997) find that there is a higher expected legal cost when a firm fails to disclose negative information in a timely manner. Thus, it is expected that the market will react more negatively to a lawsuit announcement when financial misreporting period is longer and the hypothesis is as follows:

HA: Financial misreporting period is negatively associated with investor reaction to accounting-related lawsuit announcement.

RESEARCH DESIGN

The hypothesized negative association between financial misreporting period and the market reaction to lawsuit announcement is tested by a regression of the 3-day cumulative abnormal returns around the litigation announcement on financial misreporting period and other variables. The regression model is presented as follows:

$$LitigCAR_{(-1,+1)} = \alpha_0 + \beta_1 MisreportPeriod + \beta_2 AbInstrad + \beta_3 EqtyIss + \beta_4 \mathrm{SEC} + Controls + \varepsilon$$

$LitigCAR_{(-1,\ +1)}$ is the cumulative abnormal returns over the three-day (-1, +1) interval beginning on the day prior to the litigation announcement date.

MisreportPeriod is the number of days the financial misreporting occurred.

AbInstrad is included in the model based on the results from prior literature which suggest that there is abnormal insider trading by firms that settle securities lawsuits. Billings (2008) reports a positive relation between abnormal insider trading prior to revelation of negative earnings-related news and settlement amount. AbInstrad is a binary variable which takes the value 1, if there is an allegation of abnormal selling of shares by insiders during the financial misreporting period, 0, otherwise.

EqtyIss is an indicator variable which takes the value 1, if the lawsuit is equity-issue related, 0, otherwise. EqtyIss is included in the model because the issuance of equity could be considered by the market as a strong inference of intentional misreporting (DuCharme, Malatesta and Sefcik, 2004).

SEC is included in the model and it is equal to 1, if the securities lawsuit filing indicates an investigation of fraud or accounting irregularity by the SEC, 0, otherwise. Consistent with Bardos, Golec and Harding (2011), it is expected that SEC investigation will support a credible allegation of fraud and reduce the likelihood of dismissal of a lawsuit filing in the post-PSLRA period.

Restate is equal to 1, if the securities lawsuit filing indicates that the misreporting resulted in a restatement, 0, otherwise. Restate is included in the model to control for the seriousness of the

financial misreporting. Johnson et al. (2007) document a positive relation between restatement and probability of securities lawsuit.

Leverage (Lev) is included in the model as a control variable based on the expectation that highly leveraged firms are more likely to be in financial distress and have cash flow problems, which implies that they may have a lower ability to pay damages to settle lawsuits (Simmons and Ryan, 2009). Lev is the ratio of total liabilities to total assets and a positive association is expected between Lev and 3-day cumulative abnormal returns around the lawsuit announcement date.

Size is also included in the model as larger firms may be perceived by the market as having a greater capacity to pay settlement amounts (Gande and Lewis, 2009; Billings, 2008; Simmons and Ryan, 2009). Similar to Gande and Lewis (2009) and Billings (2008), Size is the log of market value of equity.

Finally, the ratio of book-to-market value of equity (BM) is included in the single-factor model as a control variable while binary variables are included in the model to control for the effect of particular industries on litigation risk. The binary variables control for Financial Industry (SIC codes 6000-6999), Technology Industry (SIC codes 2833-2836, 3570-3577, 3600-3674, 7371-7379 or 8731-8734), Regulated Industry (SIC codes 4000-4999), and Retail Industry (SIC codes 5200-5961). According to Gande and Lewis (2009), Financial Industry and Technology Industry firms have a higher litigation risk; Regulated Industry firms have a lower litigation risk while Retail Industry firms may have a higher or lower litigation risk.

Sample Selection: Accounting related securities lawsuits between 1996 and 2005 are identified from the Stanford Securities Class Action Clearinghouse (SSCAC) database. The use of data covering the period 1996 to 2005 provides evidence of the relation between financial misreporting period and investor reaction to litigation in the period after the enactment of the PSLRA but prior to the credit crisis. Similar to Chalmers et al. (2012), accounts such as earnings, revenues, expenses and assets are alleged to have been misrepresented in the sample. The final sample of 301 litigation firms is based on the requirement that firms in the final sample have the necessary CRSP, Compustat, and securities lawsuit data. Excluded from the sample are lawsuit filings that coincide with earnings announcements, restatement announcements, earnings forecasts and other confounding events.[5]

Litigation filing date and other lawsuit data are from the SSCAC database. As Karpoff et al. (2013) find some errors in the data from the various databases used in litigation research; the lawsuit data from the SSCAC is verified and supplemented using Lexis Nexis. Financial misreporting period data is from Lexis Nexis and SEC filings. Specifically, the beginning date of the financial misreporting and the date the misreporting ends are obtained by searching through the SEC filings of each sued firm and Lexis Nexis.

EMPIRICAL RESULTS

Table 1, Panel A presents descriptive statistics of the continuous variables for 301 sample firms. Mean (median) of MisreportPeriod is 409.9 (296) days and mean (median) of Lev (ratio of total liabilities to total assets) is 0.5569 (0.5605). Mean (median) of log of market value of equity (Size) is 4.9911 (4.5535). The ratio of book-to-market value of equity (BM) has a mean (median) of 0.0480 (0.0010).

Panel A: Continuous Variables (N=301)

Variable	Mean	Median	Std. dev.
MisreportPeriod	409.9169	296.0	361.4211
Lev (TL/TA)	0.5569	0.5605	0.2492
Size (LnMV)	4.9911	4.5535	3.6336
BM	0.0480	0.0010	0.1429

Table 1, Panel B reports the frequency of the binary variables. Out of a total of 301 lawsuits, 94 lawsuits (31.23 percent) were equity-issue related and 137 lawsuits included abnormal insider trading allegations (42.52 percent). Finally, 39 lawsuits (12.96 percent) reported investigation of fraud or irregularity by the SEC and 81 lawsuits (26.9 percent) indicated that the misreporting resulted in a restatement.

Panel B: Binary Variables (N=301)

	Number of firms	Percentage	Sample Size N
EqtyIss	94	31.23	301
AbInstrad	137	45.52	301
SEC	39	12.96	301
Restate	81	26.9	301

Table 2 presents the distribution of lawsuits across the sample period (1996-2005). The distribution of lawsuits across the sample period is not significantly different from the distribution of lawsuits reported in the Stanford database. Similar to the distribution of lawsuits in the Stanford database, the lowest number of lawsuits (15) recorded in the sample period was in 1996.

There was a steady increase in the number of lawsuits from 1996 with the highest number (41) of lawsuits recorded in 2002. After 2002, there was a steady decline in lawsuits to 21 filings in 2005. The distribution of lawsuits in the Stanford database over the sample period follows a similar trend with the highest number of lawsuits recorded in 2004 and thereafter steadily declining. The number of class action lawsuits in 1996 is the lowest in the sample, which may be due to a transitory effect following passage of the PSLRA in December 1995.

Table 2: Distribution of shareholder litigation by fiscal year (N=301)

Year	996	997	998	999	000	001	002	003	004	005
Securities Lawsuits	5	8	3	0	0	0	1	9	4	1

Event Study: Table 3 presents the cumulative abnormal returns around the litigation announcement date for three event windows: (-1, +1), (-10, +1) and (-5, +1). Event study methodology is used to estimate the cumulative abnormal returns. Following Brown and Warner

(1985), the cumulative abnormal returns are calculated using a single-factor market model, the CRSP equally-weighted market index, and a 255-day estimation period which ends 45 days prior to the lawsuit announcement date, day=0.

Table 3: Cumulative Abnormal Returns (N=301)

LitigCAR	Mean	Median	Std. Dev.
[-1,+1]	-0.0441[a]	-0.0162[a]	0.1554
	(<0.0001)	(<0.0001)	
[-10,+1]	-0.1673	-0.1054	0.2337
	(<0.0001)	(<0.0001)	
[-5,+1]	-0.1138	-0.0633	0.2118
	(<.0001)	(<.0001)	

In the first column of Table 3, the mean abnormal returns are reported. The second column presents the median abnormal returns, and the third column shows the standard deviations. The 3-day cumulative abnormal returns around the litigation date, LitigCAR $_{(-1,\ +1)}$, has a mean of -4.41 percent ($p<0.0001$), a median of -1.62 percent ($p<0.0001$) and standard deviation of 15.54 percent. Ferris and Pritchard (2001) report a mean LitigCAR $_{(-1,\ +1)}$ of -3.47 percent for 85 lawsuits over the period 1995-1999. Griffin, Grundfest and Perino (2004) document a significantly higher mean LitigCAR $_{(-1,\ 1)}$ of -7.2 percent based on 2,194 lawsuits between 1990 and 2002.

Cumulative abnormal returns are also reported for (-10, +1) and (-5, +1) event windows relative to day 0, the lawsuit filing date. For LitigCAR $_{(-10,\ +1)}$, the mean is -16.73 percent ($p<0.0001$), while the median and standard deviation are respectively, -10.54 percent and 23.37 percent. LitigCAR $_{(-5,\ +1)}$, has a mean of -11.38 percent, a median of -6.33 percent and standard deviation of 21.18 percent.

Table 4 reports the results of the regression of the 3-day investor reaction to litigation announcement, LitigCAR $_{(-1,\ +1)}$, on financial misreporting period and other variables. P-values are shown below the parameter estimates in parentheses. Statistical significance at the 1 and 5% level is denoted by (respectively) [a] and [b]. We find that the coefficient on MisreportPeriod is negative and significant ($p<0.01$), supporting the hypothesized negative relation between financial misreporting period and the market reaction to litigation announcement. Multicollinearity is not a problem as variance inflation factors for the regression model are between 1.0064 and 1.2246. In untabulated results for the regression model without the test variable (Misreporting period), the R-square is 0.0668 while the adjusted R-square is 0.0276, indicating a significant improvement of the model with the addition of the test variable.

Table 4: Regression of 3-day Investor Reaction to Litigation Announcement

Variable	Coefficient (p-value)
Intercept	-0.0413
	(0.2232)
MisreportPeriod	-0.0001[a]
	(0.0006)
AbInstrad	0.0082
	(0.6747)
SEC	-0.0229
	(0.4490)
EqtyIss	-0.0382
	(0.0523)
Restate	-0.0210
	(0.3700)
Lev	0.1027[b]
	(0.0184)
Size	-0.0040
	(0.1665)
BM	-0.0185
	(0.7919)
Technology	0.0181
	(0.4339)
Regulated	0.0329
	(0.2948)
Retail	-0.0090
	(0.8014)
Financial	0.0119
	(0.7166)
N	301
R-Square	0.1077
Adj. R-Square	0.0667
F-Value	2.63[a]
(P-Value)	(0.0025)

Sensitivity Analysis: Table 5 shows the results of the regression of investor reaction to litigation announcement on financial misreporting period and other variables using a longer event window: (-5, +1). The coefficient on MisreportPeriod is significant and negative as before showing that the prior result is robust. There is also evidence of significantly negative coefficients for equity-issue related lawsuits (EquityIss) and firm size (Size). The variance inflation factors for the regression model are between 1.0064 and 1.2246, indicating that multicollinearity is not an issue.

Table 5: Sensitivity Analysis

Variable	Coefficient (p-value)
Intercept	-0.1366[a]
	(0.0034)
MisreportPeriod	-0.0001[a]
	(0.0033)
AbInstrad	0.0491
	(0.0654)
SEC	-0.0615
	(0.1373)
EqtyIss	-0.0543[b]
	(0.0433)
Restate	-0.0334
	(0.2966)
Lev	0.1429[b]
	(0.0163)
Size	-0.0027[b]
	(0.0488)
BM	0.0831
	(0.3856)
Technology	0.0264
	(0.4052)
Regulated	0.0137
	(0.7491)
Retail	0.0394
	(0.4210)
Financial	0.0033
	(0.9400)
N	301
R-Square	0.1175
Adj. R-Square	0.0770
F-Value	2.90[a]
(P-value)	(0.0009)

SUMMARY AND CONCLUSION

This study investigates the relation between financial misreporting period and investor reaction to litigation announcement using a sample of 301 lawsuits over the period 1996-2005. The empirical results indicate a negative association between financial misreporting period and investor reaction to litigation announcement. The findings suggest that the longer the financial misreporting period, the more the market perceives a securities fraud lawsuit as being meritorious.

Accordingly, the results of this study contribute to our understanding of the market reaction to securities lawsuit. The results also provide support for regulation that enhances the timeliness of material event disclosures. Finally, the results complement and extend the literature on reputational consequences of financial misreporting such as Skinner (1994), Alexander (1999) and Fich and Shivdasani (2007). To provide further evidence on the relation between misreporting period and lawsuit consequences, future research could investigate the influence of financial misreporting period on the reputation of sued firms' directors.

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Endnotes

1. The United States Congress enacted the Private Securities Litigation Reform Act (PSLRA) in December 1995. The PSLRA was passed with the intent of limiting frivolous securities lawsuits. In 2002 (2006), 82 percent (92 percent) of securities lawsuits alleged misrepresentation in financial documents and 58 percent (68 percent) contained allegations of specific accounting irregularities.

2. Public companies are required to provide timely information about material events to the market through Form 8-K filings.

3. SEC Rule 10b-5 prohibits actions or omissions that result in fraud in relation to the purchase or sale of the security of an issuing firm.

4. The PSLRA raised pleading standards for securities lawsuits and increased the likelihood that lawsuits that lack merit would be dismissed (Johnson, Kasznik and Nelson, 2000; Johnson, Nelson and Pritchard, 2007). Another heightened pleading requirement in the PSLRA for securities lawsuits is that the plaintiff shall have the burden of proving that the act or omission of the defendant caused the loss for which the plaintiff seeks to recover damages.

5. Lawsuit filings are dropped from the sample if the earnings announcement, restatement announcement, earnings forecast or other confounding event occurs within the three-day window (-1, +1) around the lawsuit announcement.

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INTEGRATING SECOND SCREEN AND MOMENTS OF INSPIRATION: IMPACT OF SOCIALIZATION AND PATRONAGE ON PURCHASE DECISION

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ABSTRACT

With the onset of technological advances, media professionals strove to fuse digital technology with television integrating elements of integrated marketing communication into the medium of what media industry strategists as well as marketing professionals conceptualize as the "second screen". Doğan Media Group (Doğan Yayın Holding A.Ş.), one of the major Turkish media conglomerates, launched EKRANDA ("On TV"), an application functioning as a second screen platform designed not only to extend experiences beyond the screen, but also as an e-shopping interface showcasing the purchasable goods integrated as product placements in the settings of TV series aired on Doğan Media Group's highly popular TV channel, Kanal D. Launched in 2015, EKRANDA served as a platform for direct purchase which turned out to be ideal from a marketer's objective; the time interval between marketing exposure and the actual time an individual goes out for shopping could be reduced to one swift of the finger. With the surge of mobilization of consumption, attention of the industry professionals' diverted to using second screens to execute PR related communication practices. Accordingly, in order to shed a light into this trending topic, this paper investigates how second screens can be utilized to establish PR objectives namely building awareness, knowledge, interest, creating intent and spurring advocacy that can be stimulated through social-psychological theories of behavior and change activated via product placement endorsements. The paper is of interest to marketing, PR and advertising circles vying for innovative ways to supercharge digital PR executions via the use of second screens and for anyone looking for valuable insight regarding how conversion funnel on the digital can be converted into action that actually generates ROI.

Key words: Marketing PR, Digital PR, multi-screening, social media, integrated marketing communications.

I. INTRODUCTION

In today's media landscape, with respect to digital media consumption, consumers face the paradox of choice; otherwise stated: choice overload. There is much content but little time to enjoy it all. Technological advances coupled with glut of content can be seen to have led to unprecedented changes in the way people consume media. Since the introduction of the Internet, onset of digitalization and domestication of consumption, traditional forms of mass media converged with digital and mobile technologies altering exposure as well as media consumption patterns. In the face of new communication modes, recognized as the new influencers, marketers as well as public relations professional approached the new tools with an extent of excitement, anxiety and fascination. While media professionals fear losing grip to a host of unexpected outcomes due to digital intermediation they are also excited about the opportunity to employ these new tools to speak directly to the target audience. The new-media communications mediums and its tools denotes digitalization and interactivity of shared and/or generated content fostering a new style of marketing characterized by starting conversation and building a community which serve to be

essential for brand building as it is an elemental component of developing and implementing growth opportunities on a personal as well as business level; heightening not only the voice and consumer awareness of a brand, but also granting it an identity and valuation. New technologies providing participatory and interactive platforms have given firms a great opportunity to boost brand awareness and equity. TV has always provided rich context for the generation of conversation thereafter; media professionals have long been looking for the most effective ways to unite TV with social media in the pursuit of delivering communication related objectives.

It is no hidden fact that television is evolving; television technology and experiences with television have advanced remarkably in the last ten years. Ten years ago interactive TV was referred to as a one-way (one-screen) medium providing audience interactivity to the extent of channel selection via the remote; TV ratings were the only metric for receiving feedback however, the last five years have witnessed another significant form of interactive TV that makes use of two-screen solutions also known as second screen which typically refers to any device that can be connected to the Web. In this infrastructure, websites or applications may be synchronized with the TV broadcast, or function as micro websites that provide supplementary content to the broadcast, either in the form of information, or as interactive game or program. The fundamental feature of some two-screen applications is that they allow user interaction over a mobile device that run synchronously with the show. As highlighted by Accenture's report on digital video and the connected consumer, more and more people are heading toward a multi-screen universe. Viewers own more and more convergent devices, which are used to perform various tasks simultaneously, whether they be related or not (Accenture, 2015). Respectively, the increasing number of screens has significantly influenced user behavior as well as extent of popularity; while multi-screens provide convenience, choices beyond measure, cost effectiveness, multi play, interaction and socialization from the outlook of a customer, from the perspective of a marketer these screens yield not only differentiation and simplified networking but also and more importantly serve to convert conversion on the digital into return of investment (ROI) realized in exchange of the goods and/or services purchased over the second screen platforms.

In Turkey, with the onset of 2015, marketers discovered the compatibility of product placement appeals with the use of second screens; converting TV leads into ROI. While public relations professionals are not in favor of connecting public relations to sales, one can actually realize public relations effectiveness by calculating impressions, share of discussion as well as net positive coverage reflected on the purchases or conversions made over the use of second screens. Consumer behavior studies reveal that appealing to the emotional part of the brain is vital if immediate action (change in behavior, thinking, act of purchase, etc.) is desired to take place (Andrade, E. & Capizzani, M.) As product placement integrations appeal to the emotional brain, which is associative, illogical, and as the name evokes highly emotional; messages can be conveyed via moments of inspiration, product placement executions can be best implemented in dramas to interplay with the dramaturgic elements traditionally used to build suspense, foster aspiration, drive empathy, and harness emotion. What medium provides the ideal context ushering suspense, aspiration, empathy and emotion all at once without actually disrupting the viewer experience? The answer is TV series that is why prompters for immediate action are typically integrated with such programming to drive sales and activate impulse purchases. While the second-person effect imposed by product placement practices on purchase decisions is widely supported by scholarly circles, providing support in line with the social-psychological theories of behavior and change, placing strong emphasis on persuasion models highlighting that while praxis of rhetoric move target audience from awareness to action in the stages of change in short notice, it is a fact that advertising is known to be subject to delay effect (Yeshin, T., 2006); people rarely take immediate action on exposure to a marketing incentive. This effect served as a risk factor placing acting on impulse in

jeopardy; the spur of the moment could wear out and some other choice of purchase or action could be made. In literature impulse buying is described as a spur of the moment driven by emotion or an unplanned decision to buy made just before a purchase (Kumar, S, R., 2009). This is compatible with research statements indicating that emotions and feelings play a huge role in purchase decisions (Richardson, J. E). Since m-commerce took over, marketers and sellers faced a need to shift from offline to online techniques to reach their target audience then appeal to their emotional brain; draw attention (build awareness), create intent (communicate knowledge), desire (spark interest), direct the target towards the intended action (behavioral impact) and eventually spur advocacy. While there are new divisions of broadcasters or studios dedicated to second-screen activity in the United States, second screen integration is still in nascent phases in Turkey. This paper attempts to be the first study to look at whether TV leads can be converted into ROI via the use of second screens and how PR value can be created on the digital through product placement appeals by drawing attention, creating interest, building desire and triggering action through 1) marketing; providing exposure for brands, products and/or service related incentives 2) branding; heightening awareness, and 3) reputation; creating informational and persuasive messages conveyed via product placement appeals. For many content providers, combining social integration into the televisual experience in other words, integrating second screen and social TV as well as the progression of inter-connected user consumption activities and its influence on global ratings, still remains to be fully understood. In this respect, there are a number of untapped issues professionals are still struggling to provide clear insight. In this study, socialization agents (social media, watching TV shows) and outcomes (product placement attitude and purchase decision) are used to explain consumer socialization in the context of product placement by reflecting on EKRANDA findings to illustrate how an offline advertisement can be converted to ROI over the digital by the appeal of moments of inspiration conveyed via product placement integrations. In order to present some arguments for research in the areas of adult socialization and patronage on purchase behavior this paper looks at media as an agent of socialization on the learning mechanisms of modeling, reinforcement and cognitive development then elaborates on case studies to illustrate findings regarding how a seamless multi-screen strategy can maximize TV advertising ROI, whether second screen synchronization heightens effectiveness of TV advertisements, and how synchronized advertising yields to strong uplift on brand and image key performance indicators (KPIs).

2. Literature Review

The ownership and usage of connected devices is on the increase. In relation to these developments, multitasking has become an integral part of the TV viewing experience. Currently, the 250-odd million people in Generation Always- On, youth born between 1982 and 1995, across the globe have made it common practice to use a personal digital screen to have fun, retrieve information and share opinions, spending over 50 hours per week with digital media (Sladek, S., & Grabinger, A). For broadcasters, advertisers and as well as producers, it is now crucial to align content with the consumer habits of this generation. Thereafter, ability to create original main and screen content just to keep viewers captive came into prominence. With regards to conceptual definition, second screens also known as dual or companion screen can be defined as an array of digital devices that can be connected to the Internet, operating over applications designed to be complementary to TV watching that are activated via intelligent awareness which allows the companion screen to automatically send calls to action in relation with the content on the first screen; presenting content that is in line and/or in synch with what is showing on the first screen regardless it is live, on-demand or broadcast. Such content can be seen in the form of hashtags, ‘cliffhanger’ ads with user-determined outcomes, encoded t-commerce, gamification, augmented reality ads, sponsorship of dedicated apps, complementary videos and an array of exclusive interactive features

(www.evolumedia.ca). Creating exclusive content, dedicating social accounts for programs, episodes or characters just to boost TV fandom and loyalty via synchronized experiences is the primary motive of second screen practices. However, there is still an ongoing controversy in the Turkish media industry regarding what falls under a second screen content. As clearly clarified by Pavlik (2015), a second screen must 1) be in link with a given broadcast by content**,** 2) use a second, connected, independent device, such as a set top box (STB), smartphone, tablet, PC or laptop, 3) involve synchronization, a type of link or feature enabling the exchange and use of information between the two screens using digital watermarking to embed digital codes or data (a targeted ad, or promotion) that can be activated to make a call to action according to what content is being watched and specific times within the streams of content (even on a time-shifted schedule). Even though media professionals tend to dub second screen as media innovation transforming the televisual experience, some regard it as a progression of existing technologies and consumer behaviors (Pavlik, J., V., 2015). Technological change is a constant feature in media industries. In collaboration with content providers, an increasing number of media professionals are engaging in planning, implementing and monitoring of second-screen strategies to reach the multitasking segment of their audience and attain the intended level of engagement. Accordingly, they are on the lookout to find out what audience populations are using their personal connected devices for, what they engage with, and for how long. Literature on second screen activities index to a large extend of psychological as well as social drivers listing an array of audience rationale for engaging with a second screen device in front of the TV. Accordingly, the rationale can be stated as: 1) desiring and/or needing shared experiences so as to establish a sense of connection with the larger community, 2) making comparisons for validation and/or curiosity in looking up alternative stances, 3) accessing content at the most ideal time and location, 5) influencing generation of content and/or interacting with content to receive acknowledgement from others, 6) showing an interest in debate/discussion for the sake of social inclusion, to have fun, or collect more information on a given subject (Holt, J. & Sanson, K., 2015). Stating on the basis of this list, it can be suggested that the scope and possible impact of second screen is very high. However the realization of this impact depends on the development of appropriate second screen applications in other words, attaining compatibility with first screen content.

2.1 Multi-Device & the Connected World

Global Outlook

The most up to date, inclusive report on the digital consumer can be stated as Accenture's 2015 survey findings. Accenture is a world acknowledged company, providing professional services and solutions on consulting, strategy, operations and digital technology to its clients as well as stakeholders around the world. Closely related with the focus of study, it is necessary to highlight findings released by Accenture's most recently conducted survey on the digital consumer highlighting relevant qualitative as well as quantitative findings indexing to usage, attitudes and expectations related to digital device ownership, content consumption while raising awareness to issues such as broadband constraints, digital trust and the Internet of things. Accenture's Digital Consumer Survey was carried out between the month of October and November, 2014. A total of 24,000 consumers from 24 countries participated in the online survey. Participating countries namely were: Australia, Brazil, Canada, China, Czech Republic, France, Germany, India, Indonesia; Italy, Japan, Mexico, Netherlands, Poland, Russia, Saudi Arabia, South Africa, South Korea, Spain, Sweden, Turkey, United Arab Emirates, the United Kingdom and the United States (accenture.com). The sample in each country is stated to be representative of the online population, with respondents ranging from 14 to 55 years of age and over. To elaborate on the findings released by this survey, it is necessary to emphasize that consumers are pointing to a new maturity in digital

and its time for service providers and device manufacturers to turn on, tune in and transform these new digital behaviors into profitable business opportunities. The report points out that a large segment of the population interacts with social media activities and media related activities on the Internet. In line with this trend, a high proportion of younger survey participants are seen to report integrating multi-tasking into their TV viewing experience. While ownership of second screen friendly devices, improved streaming, longer battery life as well as emerging patterns of behavior can be stated to have greatly contributed towards the growth of the second screen phenomenon, propelling a boost in second screen use, the findings reveal that younger audiences are far more likely to use second screen apps than older audiences. Just recently, Accenture published a report stating mainstream viewing is facing a steep fall. According to the report, over the course of the past year viewership on actual TV screen downturned by 13% across the globe. This finding is also seen to impact sports viewing marking a 10% drop of viewership on TV worldwide. Some key points from the release necessary to be spotlighted is as follows; 1) 33% of the 14 to 17-year-olds are backing out on the TV screen for movies and television shows and 26% are ditching the TV for sporting events, 2) greater than one third of the consumers (37%) own smartphones, and/or laptops, desktops, tablets, 3) among the ones planning to purchase a TV, 61% reported an intent to buy a TV that can be connected to the Internet, and 25% to buy a 4K TV expanding the borders of mainstream TV viewing ; this accounts for a boost of 7% compared to the numbers of last year. Last but not the least, the report declares that 89% of respondents consume long form video content on second screen devices, and 87% make use more than one device at a time. Finally, at a global scale the smartphone is the most frequently used second screen securing a 57% overall rating. This trend is particularly valid for millennial audience segment; 74% of 14 to 17 year-olds use a mix of TV/smartphones during viewership, however, in North America; a laptop/computer is used more frequently for simultaneous viewing; 59% vs. 42% for smartphones (accenture.com, 2015).

Turkish Media Landscape

Joining research efforts with Target Group Index (TGI) 2015 Spring Data and Internet Advertising Bureau (IAB), Starcom Mediavest Group Business Intelligence released a report comparing 2014 and 2015 insights to shed a light into the outlook of conventional and digital media consumption patterns as well as reveal numbers regarding technological device ownership (kantarmedia.com, 2016). TGI, a global network of single-source market research providing invaluable, consumer insights for over 60 countries across six continents, carried out annual researches in Turkey, surveying units of over 20 thousand and reaching a diverse group of 15.000 respondents over 15 years of age which is stated to equate to a representative sample of 41 million people to reveal qualitative as well as quantitative information on variables such as demographic profile, product-service usage, medium consumption and lifestyle habits. With the joint consortium of Gemius and Ipsos (client-focused organizations combining analyses of Internet, TV, radio and press to develop a single base of multimedia data) in order to assess Turkey's digital reach, IAB Turkey contacted 4.000 people over 12 years of age every month in a face to face fashion to provide in-depth insight into the monthly internet penetration findings. Where does this contact list come from? IAB has a registered member of over 45.000 members and via pop up panel social demographic data of the users visiting coded sites. This data is then made use to be integrated into traffic data.

When the 2015 conventional media user profiles are analyzed in Turkey, even though TV can be stated to have the highest reach, there is not much of a discrepancy regarding TV consumption patterns on the basis of gender, age and SES groups. Another aspect necessary to be highlighted is; while males make up 59% of newspaper readership, they profoundly draw apart from women readers in a variety of ways. As clearly illustrated in the table below, individuals over 55 make up the age group who essentially diverge from the mainstream newspaper readers; the

most drastic differentiation with respect to SES groups is seen in AB. Last but not the least, while outdoors and cinema apparently cannot attain reach for elderly segment, magazine and cinema consumption has the youngest profile. Finally, in other words, apart from TV, AB SES group can be stated to differentiate considerably.

Traditional Media Consumption Profile		Gender Range		Age Range					SES Group Range			
		Male	**Female**	**15-24**	**25-34**	**35-44**	**45-54**	**55+**	**AB**	**C1**	**C2**	**DE**
TV	Index	49%	51%	21%	24%	20%	16%	20%	14%	22%	33%	31%
	Range	97	103	95	98	101	104	104	95	99	99	104
Newspaper	Index	59%	41%	20%	23%	22%	16%	20%	19%	25%	31%	25%
	Range	118	82	90	94	107	105	108	132	108	94	85
Outdoor	Index	61%	39%	26%	24%	21%	14%	15%	20%	23%	33%	25%
	Range	122	78	117	100	103	94	81	138	100	97	85
Radio	Index	52%	48%	23%	25%	22%	15%	16%	19%	24%	32%	25%
	Range	104	96	102	103	109	99	86	132	106	96	84
Magazine	Index	48%	52%	32%	25%	21%	12%	11%	28%	23%	27%	22%
	Range	95	105	143	103	102	79	60	197	100	82	74
Cinema	Index	59%	41%	44%	25%	14%	10%	7%	30%	23%	27%	20%
	Range	117	83	197	103	70	67	40	208	102	81	68

Figure 1: Turkish Media User Profile, 2015. Source: TGI Spring 2015 Research Results

Patterns of ownership reveal that smart phones are mostly in the possession of the youth whereas tablets are mainly in the possession of the female gender. In Turkey, 90% of the population is recorded to own mobile phones. By analyzing device ownership profiles, it can be inferred that the rate of mobile phone ownership is in parallel with the demographic distribution evident in Turkey.

Device Ownership Profile in Turkey		Gender Range		Age Range					SES Group Range			
		Male	Female	15-24	25-34	35-44	45-54	55+	AB	C1	C2	DE
Cell Phone	*Range*	52%	49%	22%	25%	21%	15%	17%	15%	23%	34%	28%
	Index	103	97	97	105	104	101	92	106	102	101	95
Smart Phone	*Range*	59%	41%	32%	29%	20%	10%	9%	22%	26%	31%	21%
	Index	117	83	144	121	100	69	46	157	116	92	69
Desktop	*Range*	53%	47%	28%	19%	24%	17%	12%	18%	26%	34%	22%
	Index	106	94	123	80	121	115	64	128	114	102	73
Laptop	*Range*	53%	47%	35%	23%	21%	18%	14%	29%	25%	27%	19%
	Index	106	94	112	97	103	119	72	202	110	81	66
Tablet	*Range*	47%	54%	22%	24%	24%	18%	12%	33%	26%	25%	17%
	Index	93	107	98	102	117	119	66	228	114	75	56

Figure 2: Turkish Media Ownership Profile, 2015. Source: TGI Spring 2015 Research Results

As evident in Table 2, even though desktops are growing out of date and losing penetration in the face of time, desktop ownership can be associated with game habits of this age segment. While laptop ownership draws a similar profile with that of desktop, in the matter of correlation between gender and tablet ownership females are at the forefront. Finally, in respect of SES group distribution, AB can be stated to be well ahead.

When the research of concern is second screen use, mobile devices presume the leading role. Preceding the 46% laptop use recorded in 2013, mobile phone usage increased to 56% in 2014 and retained its leading position. In contemporary times when almost everyone is a companion device user, second screen usage comes out of being a niche digital behavior and can be recognized as a conventional activity when watching TV.

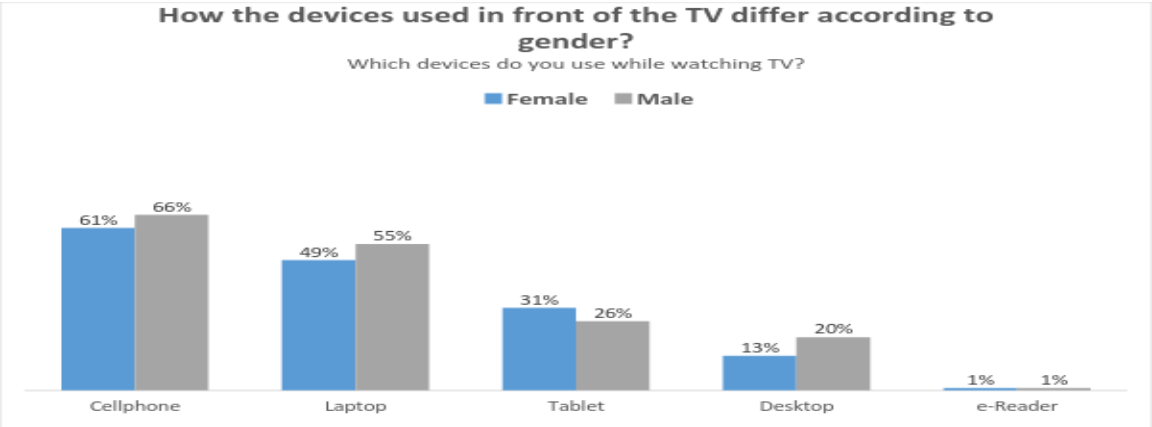

Figure 3: Devices used in front of TV by gender

2.2 Promises of the New Media

Technological change and convergence is a prominent feature of media industries. Transition to digital platforms enabled content of all kinds to be simultaneously delivered to audience segments via multiple channels of communication. Subsequent to this digital transition, adoption of shared digital technologies impacted not only content and delivery but also the operational and corporate strategies of professionals in the industry. Marketers and PR professionals embraced promises of the new media as it offered optimizations for executing campaigns specifically through interactivity, tailoring, and narrowcasting. New media features, the cornerstone of interactive media, not only enable the sender to maintain control over the communication flow but also grant the receiver to exert control over the communication process. This feature fosters relationships between the sender and the receiver (i.e. feedback, responsive dialogue, and mutual discourse) to flourish. Moreover, new media features facilitate tailoring of intended messages to fit a consumer's wants and needs. For instance, new media tools such as online screening questionnaires are commonly used to determine criteria such as buyer readiness stage, aesthetic tastes, extent of knowledge, as well as beliefs and attitudes of the target audience then the collected data is used to narrowcast messages. Furthermore, these tools can be used to reveal cultural, social, personal and psychological factors affecting consumer behavior. This is not only crucial in increasing the chances of learning and persuasion, but also fundamental in avoiding backlash (Rice, R., E. & Charles K., A., 1989). Tools of the new media enabling narrowcasting for professionals and interactivity for audience segments can be categorized as media and file sharing, social gaming, crowd-sourcing, sharing workplaces, social networking, blogging, rating and reviewing, making use of social commerce, discussion forums and wikis. As stated by Joseph, previously popular linear models of engagement strategizing on the basis of demographics are now replaced to psychographics; taking into account experience, preference, behavior, attitudes and aspirations as the building blocks to strategize on captivating results (Joseph, J., August 27, 2014). Even though professionals of the field initially worried time spent on second screen can distract the audience from adverts on a first screen, case studies revealed that it reduces the likelihood of consumers changing channel. In fact as asserted by (Kreutzer, R., T., & Land, K., H, 2014) many use second screen to find out more about products and brands they see on TV.

2.3 The Phenomenon of the Second Screen

In light of the promises of the new media, activating a second screen initiative prior to a show's broadcast became the new hype in the TV industry to create a buzz and attain a fan rewarding interactions during and after airing. This made watching TV dynamic and collective, empowering its potential to build long-lasting communities that have been typically achieved by establishing a fan base through storytelling and/or relating via creating characters the audience will like, follow and cheer for. This is essential in imposing effective brand messages and stories, which can be conveyed by way of creating personas and telling stories from the characters' perspectives. The strategic significance is to create characters the audience can bond with to such an extent that they will want to follow actors' character archetypes. It can be noted that TV-related comments on user-generated media are submitted impromptu and are often initiated by the most devoted groupies. Deriving on this observation, one can infer that relationships do not take root over a one-way interaction; to build better relationship with fans, one needs a two-way interaction. To establish a genuine relationship with fans, one must engage and build community through conversation and more importantly become a source that provides added-value content (functional, fun and/or community-based) and solve fans' problems while sharing common themes and objectives that serve for characteristic particularities, usages and benefits. Such initiatives 1) prevents viewers

from drifting 2) retains interest by engaging the audience, fosters loyalty, creates feedback opportunities through TV and second- screen content.

2.4 Paradox of Monetization

Television is still a popular medium to showcase new products and services moreover; it retains its status as an ideal platform to reach large masses. Traditionally, TV broadcasters monetized their viewers' attention through the sale of advertising spots. In line with the shift taking place with respect to the drift in audience attention, a change in monetization terms was in order. In the case of adjusting mass communication practices to the digital, the most controversial turned out to be the monetization of PR. Professionals of the industry assert that the main motive for measuring PR effectiveness is to quantify the value of public relations programs by attaining numbers of ROI. PR professionals asserted that a dollar value cannot not be assigned to PR on the digital; one cannot calculate ROI from impressions, share of discussion, net positive coverage, or any other metrics unless a dollar equivalent is assigned or then, ROI cannot be calculated. This has given rise to financial versus non- financial categorizations of returns and caused the industry to stress on the sale as well as conversion of advertising value equivalence (AVE) as a means to calculate public relations ROI. However, a direct monetization means for PR remained to be resolved.

The sales funnel model on the digital takes off from the idea that users search only when they have a specific need, problem, or question at hand. Once the audience fulfills the need for search then they become loyal consumers of a given content, and finally trust the source to take action (i.e. purchase). However, in reality, this is not really how individuals search and make purchase decisions. Human brain is highly emotional and associative moreover, because multimedia information retrieval is based on similarity and not on exact matching, the mind focuses on what the individual is looking for. As the individual engages in a search, associations guide courses of action. Most often, the starting point of a search does not stem from wanting something but because that something resonated with the person and eventually triggered a desire to buy it. As Davis calls it, this desire is stimulated by a "moment of inspiration," that may be unconscious or conscious (Davis, J., A., 2010). Moments of inspiration can be most ideally conveyed by targeting the emotional brain of audience segments which can be activated by building suspense, fostering aspiration, cultivating empathy, and harnessing emotion through audiovisual placements embedded as brand integrations. It is a fact that humans achieve understanding of a subject matter by contrasting notions with meanings (collectively assigned characteristics) of other chunks of abstract reality. There are no distinct entries or files in the anatomical structure of the brain, there are simply associations more or less strongly correlated with other associations. This taxonomy shapes courses of action when one searches as well; one keeps on making associations and decisions that lead one to different sites and different content. In the process of searching, what is initially searched is likely to be prioritized by another purchase decision hence, in order to attain ROI, after attention is drawn, interest is created, desire is built and motivation to act is activated via messages conveyed by moments of inspiration, a platform should be provided enabling consumers to instantly buy what is on offer. It is indisputable that PR is earned media and advertising is paid media however, in the face of the attention drift of the connected consumer, the risk factor indexing to the time intervening message exposure necessitated a new medium to reach the ever fragmented audience, to draw attention, spark interest, create desire and trigger action (intended output). This medium proved to be second screen activated most ideally in compliance with product placement integrations appealing via moments of inspiration used in the pursuit to build awareness, convey knowledge, spark interest, create intent and spur advocacy. In other words, second screen use is ideal to integrate PR practices, paving the way to attain ROI in the meanwhile; making possible to assign a dollar equivalent in return of the purchases of the goods or services made. It is definitely the best

ROI one can get; what could be better than consumers actually buying what you are selling instantly?

2.5 Interplaying Mechanisms: Linking to Theoretical Constructs

In the digital world marked by interactivity, online communications and social networking, before audiences make a decision or take an action, they need to be *aware* of the matter of communicative input, show a sense of *interest* in it on the basis of knowledge conveyed regarding the features and advantages (emotional and physical), feel an extent of *desire* parallel to the needs, wants or interests. This is manifested in the theory of communication A-I-D-A (awareness, interest, desire, action) developed by E. St. Elmo Lewis. The communication lifecycle in public relations is deferential with the paradigm introduced by Lewis. A-I-D-A, describes four phases individuals go through when processing a new input or purchasing a new product or service. These phases are hierarchical and grounded on the assertion that each phase's succession is dependent on the promotional element (advertising, public relations, or direct sales) of the 4Ps of the marketing mix. For action to occur, the receiver has to go through the first three stages. This theory is also in line with the theorem referred to as the hierarchy of effects indexing to the stages of cognition (attention, awareness), affect (interest, desire) and conation (action, i.e. purchase). This hierarchy of effects can be stated to be based on think-feel-do model and that even though there seems to be an agreement on the three stages of cognitive flow, the order is subject to most debate.

Third Person Effect (TPE) and Theories of Persuasion

There are sound theories supporting the integration of product placement with second screen with regard to attaining the intended learning and attitude outcomes typically achieved by communicating knowledge, interest or intent to act over converting the passive role of the audience into an active role by extending their communicative function. Hence, a thorough understanding of persuasion theories is needed to understand the effect of communicative input on audiences in order to shed a light on how persuasive messages work via modifying beliefs, values or attitudes. Persuasion theories manifest itself on the fact that the message recipient must have free will, stressing on the assertion that evaluations are learned, not inborn hence, attitudes are proposed to be changeable, influencing behavior formation which then leads to the end result; conation (action).

In the digital age, the message sender can designate a specific audience segment then use them as an outlet to circulate a given communicative input. This is called the "third-person effect" model and is often adopted by public relations executioners. For instance, the scope of an individual's posts (reviews, recommendations, commentary or criticisms) submitted over an array of user-generated media platforms determine whether the credibility of the message will be positively or negatively affected and whether engagement will be attained or not. Just as a PR professional can post a positive remark, the designated audience can function as an advocacy group that can circulate a given input beyond conventional mass mediums of communication. This enables to bypass intermediaries which is optimal for cutting expenditures, directly reaching the target without intervention of noise, and heightening message effectiveness as the sender serves as a advocacy group; perceived as opinion leaders on a given subject matter.

One fundamental theorem of learning and attitude change, message-learning theory (Hovland et al., 1953) puts forward that the more audiences acquire knowledge and remember from a communicative input, the more propelling the input will be. Renowned for creating the discipline of persuasion theory, psychologist Carl I. Hovland proposed a gradual progression elaborating how people are persuaded. Accordingly, the phases required for persuasion involves attention,

comprehension, yielding and retention. Message learning theory suggests that repetition of a given input boosts learning and suggests that commercials wear off faster (facts and basic support) than do those employing brand users as the message source. Moreover, as noted by Hovland et al. source of the input has a strong persuasive effect on audiences determined by source characteristics. According to this proposition, audiences evaluate a source on the basis of two credentials; the degree to which the sender is perceived to be an expert on the given matter and the extent to which the sender is conceived to be trustworthy. This is in line with the social learning theory. To reflect on the input processing and problem-solving tendencies of human beings, individuals do not like impositions on what to do or how to solve problem related inquiries. People rather answer their own questions and acquire information at their own pace thus they need data that will integrate and enable them to be a part of the communication process (two-way communication) then aid them to know, learn, discover, explore and understand the input of communication. Social learning theory (Bandura, 1977) stresses humans learn by observing how others behave (imitation) and by modeling ones own behavior on the basis of what others do and what one sees around. This also lies in the logic of strategic executions seen in stealth marketing practices (involving strategies such as viral marketing and celebrity marketing) that draw heavily on propositions of social learning theory.

One other theorem supporting the integration of product placement with second screen is self-persuasion theory. The theory asserts that the extent of persuasion related to how audiences engage with and respond to the stimulus in question. According to the arguments of this theory, audiences take an active role in deriving meaning and persuading themselves to bolster, accept, distort, derogate or reject the call to action embedded in the message. The Elaboration Likelihood Model (ELM), one of the most influential recent persuasion theories (Petty and Cacioppo, 1981, 1986) is often referenced as an example of self-persuasion paradigm. This model highlights three factors stimulating audiences to engage in issue-relevant thinking when processing a communicative input. The three drivers are motivation (advantages on offer), the ability or expertise to comprehend the arguments and the opportunity to process benefit-based (emotional and physical) statements. Accordingly, audiences can either take the central or the peripheral paths in processing data. The argument suggests that if audiences have motivation, ability and opportunity to process the input, they will take the central path making them to process information on the basis of benefit-based offers at a rational level. If this route is taken, an enduring attitude change (leading on to behavior change) is more likely. Conversely, If the target audience's motivation or ability to engage with the message is low, the peripheral route will be taken (i.e. setting, originality, humor and feelings conveyed). This may either lead directly to a behavior change, or first to an attitude change, which is then followed by a behavior change. It is important to use personally involving messages (as this is more likely to lead to utilization of the central processing route) with an emotional and imaginative tone. Persuasive appeals must employ highly credible sources. In literature, seven common cues are noted to heighten persuasive power of a given message. These cues can be stated as authority, commitment, contrast, liking, reciprocity, scarcity, and social proof (Cialdini, 1993).

Narrative Paradigm

While ELM indorses the power of strong, rational assertions as necessary for persuading the motivated audience segments, the narrative model stresses on power of persuasion through narration; storytelling. Fisher argues that the most persuasive or influential message does not carry rational tones of input, but instead a narrative tone that convinces the receiver on the basis of a good reasons approach for engaging in a given course of action (1985). First and foremost, Fisher proposed that one major differentiating factor setting apart humans from animals is the aptitude

and need to narrate through storytelling. This is evident in the Greek concept called "*mythos",* indexing to human communication as mainly made up of stories expressing mental representations in sensory modalities that cannot be scientifically verified; includes symbolic words and actions that people use to assign and generate meaning (Brock, B.L., & Scott, R., L.,1989). Such conceptualizations come up in metaphor, values, gestures, emotions, and aesthetic choices that mold ones beliefs and conducts. Hence, reality becomes constructed on the basis of these subjective depictions. As humans need an index to differentiate which narration is believable and which is not thus they tend to employ narrative rationality; cognitive reasoning by which an individual determines whether to believable a given narration or not. In decision-making narrative rationality depends on good reasons approach. Instead of relying entirely on rational assertions, such reasons function to affirm, accept or deny the narration in question based on the perceived truthfulness and consistency. In line with this logic, coherence and fidelity are imperative in constituting this narrative reasoning of good reasons. To achieve narrative coherence, the narration has to flow smoothly, make sense, and be believable**.** Similarly, when the narration appears believable and consistent with experiences then narrative fidelity can be perceived. The significance to convey narrative fidelity lies in the fact that to accept a narration, first and foremost the receiver must recognize the fidelity of the narrative; without fidelity, coherence is simply insignificant. In other words, it can be suggested that rationality and persuasion is directly correlated with the ability to formulize a coherent story.

The narrative paradigm suggests that humans use "Good reasons" for adopting any rhetorical message choosing among the rhetorics that make up the world we live in that are used in the construction and reconstruction of social reality. Manifestations of TPE can be found in this paradigm and is evident in the fact that rationale is embedded in the rhetoric exposition of life as well as the aptitude people have in recognizing coherence and fidelity in the stories they encounter then pass on by word of mouth. Accordingly, it can be inferred that *mythos* (narratives) and *pathos* (emotional appeals) carry more weight in deducting good reasons hence, they are more influential than basic facts. According to the narrative paradigm, human communication and understanding of reality can be stated to rely heavily on narration. Fundamental implications of the logic of good reasons on ROI is that only when a narrative has the logic of good reasons and narrative coherence will it be pervasive enough to reach consciousness. Only then the input can qualify as eligible to be processed into a change in action.

Implications for Second Screen Integration

In line with the theory of communication, A-I-D-A, the captive audience phenomenon seen in product placement integrations, attention of the target audience can be easily attained and enhanced by second screen practices as they stimulate the audience to engage with the content. Additionally, as brand related messages can be depicted at length via scenario integration, verbal placement, active and/or classic placement, retention of the messages can be maintained and comprehension of marketing related content can be strongly achieved through enforced narration (narrative rationality, coherence, fidelity).

The persuasive power of narration can also be seen in contemporary integrated marketing practices giving products or brands the main roles in their own stories, positioning the story in romantic, tragic, heroic, or satirical schemas. Effective compatibility of A-I-D-A with product placement executions activated over second screen is also supported by studies highlighting product placement as increasing brand recall and recognition (Kozary, B., & Baxter, S., 2010).

It is necessary to note that feelings are often employed as agents of persuasion in communication practices (Balasubramanian, 1994). For instance, an individual's feeling towards a

brand can be stated to be correlated with how persuasive a given communicative input is. In product placement jargon, cognition refers to brand recognition and recall both of which index to learning outcomes. Stating from a marketing scope, cognition can impact an individual's intention of purchase. To elaborate in detail; cognition (process of coming to know and understand via encoding, storing, processing, and retrieving information) casts a direct influence on affect (emotional interpretation of perceptions, information, or knowledge) which in turn leads to conation; action stage determined by a combination of intentional and personal motivation of behavior. As illustrated by the workings of the mind the degree to which an individual is persuaded by a communication input can be inferred to be directly related to that individual's purchase intention. This is in line with the assertion of message learning theory indicating that models, or actors, effectuate learning through product demonstrations (Balasubramanian, 1994). According to this reasoning, placements that enforce product-use through endorsers lead individuals to acquire brand preference and/or consumption behaviors. Endorsement through modeling leads to explicit processing which then leads to high product learning and brand recall (Balasubramanian, 1994) which results in an increased chance for the viewer to engage in the intended end-result (i.e. purchase, advocacy, increased publicity, etc).

The time or extent of elaboration available in traditional mediums of communication is not sufficient to bring about conversion. Compatible with ELM paradigm, activation of product placement executions integrated with second screen however provide both a high and low extent of motivation, ability and opportunity to process information enabling the audience to either follow the central route or peripheral route of cognition in information processing. In either case, employment of personally involving messages serves to be the key to the depiction of the logic of good reasons and narrative coherence so that message input can permeate a receiver's consciousness and become translated into a change in action. Since emotional and imaginative appeal can be conveyed through dramaturgical elements of narration, embedding product placement integrations in TV series to be conversed as conation (action for consumer, ROI for marketer) over second screen can be foreseen to become the new power horse of PR and related communication practices.

3. Methodology

Semi-structured interviews are held with second screen executive of Doğan Media Group, Elif Fidan to reveal 1) whether TV leads can be converted into ROI via the use of second screens, 2) how PR value can be created on the digital through product placement appeals by drawing attention, creating interest, building desire and triggering action through marketing, branding and reputation on the digital platform, and 3) how an offline advertisement can be converted to ROI over the digital by the appeal of moments of inspiration conveyed via product placement integrations. Nevertheless, in-depths interviews are specifically conducted to illustrate case findings on how a seamless multi-screen strategy can maximize TV advertising ROI, whether second screen synchronization increases the impact of TV advertisements, how synchronized advertising results in strong uplift on brand and image KPIs and finally, how conversion funnel on the digital can be converted into action that actually generates ROI.

4. Case Study

Start of an Era in Turkey: Samsung First Screen Solutions

In 2015, Samsung launched a multiscreen TV app in Turkey in partnership with technology providers Civolution and Tagvance Media. The app, for the Galaxy S5 was designed for the finale

of popular TV series of ATV channel called “Kara Para Aşk”. The app used Civolution’s SyncNow that provides content recognition technology via audio watermarking. This feature enables users to interact with the TV content in real-time. This app presented audiences an opportunity to engage with the show by discovering more content over the app not to forget, enabled viewers to play synchronized quizzes, participate in polls, participate in various games to gain points, unlocking special videos, episodes and the alike. Partnering with content producer Ay Yapım and ATV, the campaign was developed for Samsung Turkey by LiquidThread, the content unit of Starcom MediaVest Group (Fidan, E., February 4, 2016).

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Working with the biggest media companies (Kanal D, ATV, Digiturk, TV8), agencies (StarcomMediaVest, GroupM) and brands (Samsung, Unilever, Ulker), Tagvance Media has been at the forefront of real-time content innovation in Turkey. Their award-winning second screen platform brought several global and national awards to Tagvance Media for their project with Samsung Mobile. These awards can be listed as; silver winner, MMA The Smarties Global 2014 / Gold winner, MMA The Smarties Turkey 2014 / Bronze winner, Crystal Apple 2014 / Gold winner, The Internationalist Awards 2015 / Winner, Frost and Sullivan 2015 Middle East Enabling Technology Leadership for Second Screen Applications / Winner, Videonet Connected TV Awards 2015 Achievement in Advertising.

EKRANDA Second Screen Solutions: Social TV Innovation of The Year, 2015

For a second round, this time Tagvance Media, the project house providing ready-to-operate second screen solutions (Ideate-Motivate-Activate process), partnered with Kanal D to take it’s audience deeper into their favorite shows and make them become ‘content-aware’ over their smartphones by providing engagement with perfectly-timed interactive experiences. Kanal D is a major TV channel in Turkey, owned by Doğan Media Group. The group also owns CNN Turk, many thematic channels, major newspapers and magazines, production companies, and a Direct-to-Home service, D Smart. As stated by Fidan, Kanal D is not only the most watched national channel in Turkey but also has a viewer profile of tablet and smartphone users exceeding 5 million hence, the channel positions itself as a digital brand.

EKRANDA (meaning “On TV” in Turkish), is a companion app for smart phones, enabling the viewer to buy and engage with the items they like on TV in real-time. Users can purchase and access details of the products they like on TV and make purchases with one swift of the finger during or after airing. They can then use their companion device to access other applications and social networking tools to share their experiences with friends, family and on-line communities. İt is necessary to highlight that EKRANDA was designed due to high audience demand. Via the dedicated app, that can be downloaded on all iOS and Android operating devices, users can check out their favorite celebrity clothes and steal their star style! Second screen technology gives a smart device such as a tablet or a smartphone the ability to become content- aware and know what content is being watched. It is a great outlet for brands to connect with target audience, heighten brand awareness and brand equity. Audiences can learn the details of the products or services featured as product placement integrations embedded in TV series of the productions aired by Doğan TV. List of airing, providing a list of the broadcasts by the channel can be archived from the newest to the oldest. Releasing a notification every time a new product is added, a new product band and visual can be simply programmed to be sent over second screens without the involvement of intermediaries. Product details (brand, price, size, etc.) can be attained by clicking on the scene of the TV series which can be found as a screen shot on the main screen.

EKRANDA enables Kanal D to engage viewers longer, increase ratings, generate new

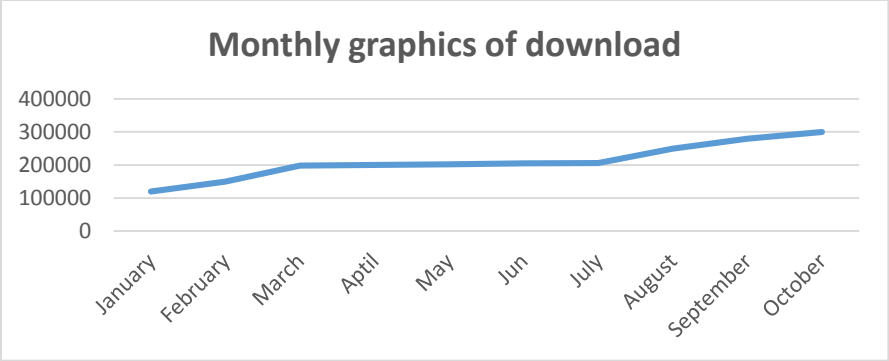
incremental revenues, and collect marketer data metrics hence meeting the objectives TV business looking for. Brands and agencies also enjoy having a direct link with the TV audience. Native Ads are targeted to hit the right demographic on their second screens. The live embedder from Kantar Media is deployed at the head end generating Kanal D licensed audio watermarks that are agnostic to the delivery network (Satellite, Cable, IPTV, Analog), or TV watching mode (live, time-shifting, PVR recording). When the user is watching the TV, CMS uses ACR (automatic content recognition) to identify the specific episode of the show being watched and triggers real-time events related to the content being watched within the application. The app using the audio watermarks used in TV synchronizes with the content management system and enables users to interact with the TV series in real-time. Viewers can see in-program calls to action for products featured in the scenes, or related to the episode and promoted by the network. Moreover, as noted by Fidan, commerce events link directly to the featured product for fast and easy purchasing.

Kanal D organically used product placement in TV series to highlight the products features. Parallel to product placements the mobile application displays specifications about the products and synchronously provides a dual monitoring opportunity. The campaign at the same time creates a return channel to the content producers and brands. Presently 10 major brands are using the platform. It is expected to reach to 50 brands by the end of 2015. Major Turkish fashion e-commerce websites selling a wide collection of branded clothing, accessories, shoes, bags, and cosmetics. Lidyana and Trendyol are handling the supply chain and are also promoting sales related to TV series & shows. Partners are facilitated with ‘add to card’ model within the app or with an option to be directed to their sites. The partnership between MasterCard in particular with its mobile payments technology, and Hepsiburada, pioneer in e-shopping across all channels, enables KANAL D, to meet the needs created by new behaviors with TV and mobile engagement. The alliance ensures a step forward in the e- commerce marketplace. In order to build the second screen audience, strong calls to action before and in the show are aired as TV spots and banners to make the essence of the digital experience clear and motivate the audience download the application.

EKRANDA app has over 250K direct downloads. The service is also available indirectly through the Kanal D flagship app (4.5 M downloads). Page views are above 10M up to date with an average session time of 75 mins and 46% engagement result. Major users are from Turkey. But users from Germany, France, The Netherlands, Azerbaijan, Belgium, and UK also use the app. Kanal D is stated to have created a massive social media buzz through this project. In-program experiences is said to unlock entirely new advertising inventory and sponsorship opportunities while driving incremental revenue beyond today's interstitial commercials and blind ad insertion. Since it’s launch in January 2015, the platform has been on air 24/7 uninterrupted. Up to date, 13 prime time top rated series and 1 top rated game shows has been supported with the TV synced e-commerce app. The first 6 months is stated to have proven great market interest. Major revenue streams were; digital ads, sponsorship, and unit e-commerce commissions from synchronized TV assets. Via this app Kanal D also accessed valuable information about its audience at a granular level; who they are, where they are and how loyal they are to a program.

EKRANDA– Numbers

Since its launch in January 2015, EKRANDA is downloaded by over an approximate of 400 thousand users.



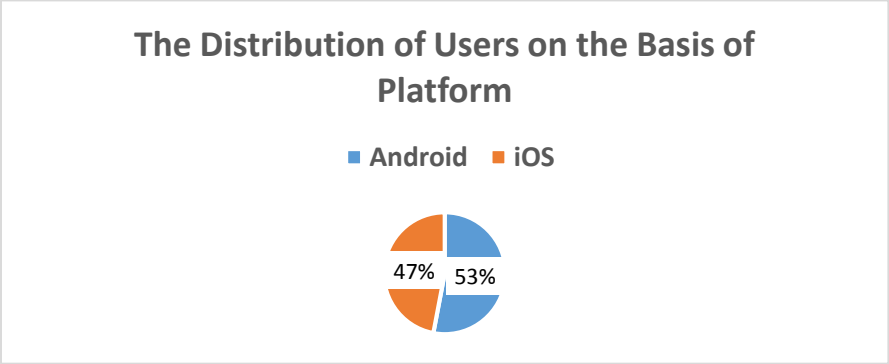


Figure 4: Growth and Profile of EKRANDA Users

5. Policy Implications:

In the case of digital advertising, the Turkish legislation does not have an inclusive and explicit law. Fundamentally, as there are three major players across the online advertisement industry namely; advertisers, consumers and finally the intermediaries, the legal issues specifically revolve around protection of consumer rights, trademark infringement and dilution not to forget, the Internet law (Law No. 5651- nine catalogue crimes against the state not commonly applied for marketing communication related practices). Regulations are mandated so as to equilibrate the promotion of competition, allowing fair use of trademarks, providing consumer protection from delusive practices and fostering a platform to be used in the promotion of businesses related practices.

In Turkey, the Advertisement Board is the one who lays out the principles as well procedures of advertisement related practices. Moreover, the board is also responsible from supervising conformity as well as checking for compliance with related legislations. However, it should be highlighted that Turkish law not only lacks legal sanctions on digital advertising but also matters encapsulating privacy violations and the dispatch of uncalled-for commercial e-mail messages. The Board inflict punishments when breaches in law take place and unfair practices are conducted then the penal sanctions are formulated on the basis of universally accepted definitions and rules.

6. Discussion and Conclusions

In contemporary times TV is still a popular medium used inn increasing sales, profits as well as heightening brand equity. Since the introduction of the innovative era brought by synchronized apps, the second screen has become an effective way for broadcasters to reach untapped audience segments. Social analytics reveal that synchronized reach across multiple screens results in strong uplift on brand and image KPIs. Cross-media technology that synchs the delivery of TV and online contents recently showed the ability to increase awareness by more than 40% (evolumedia.com, 2013). Strong uplifts in KPIs such as Brand Attitude, and Word-of-Mouth are also evident. Most importantly, the synched solution is the immediate feedback to a given communication stimuli – something which was not available until now.

Why Integrate TV with Social Media?

As spotlighted by the 2015 report on Internet and social media use, WE ARE SOCIAL, there is a total of 37,7 million active Internet users in Turkey (wearesocial.com, 2015). This rate makes 49% of the total population. Whereas there are 40 million active social media accounts, 32 million of them are used in mobility while 80% of these accounts are accessed over mobile devices. In the second quarter of 2015, total Internet subscription including dial up Internet saw a 3.4% increase compared to the previous 3 month period moreover, the growth in mobile, fiber and cable subscribers can be stated to have positively contributed to the overall increase in the number of Internet users.

The annual increase rate of total Internet subscribers can be stated to be 19,9. By the end of June 2015, there is a recorded total of 72.174.826 mobile subscribers equaling to 92.9 penetration rate across the face of Turkey. The report illustrates that we have 69.6 million mobile users. When one investigates the 2014 findings of the same report, active Internet users can be seen to record a 5%, social media users a 11% and mobile users a 2% increase respectively. Internet users spend 4 hours and 37 minutes on the Internet, 2 hours and 51 minutes on mobile Internet and finally 2 hours and 56 minutes on social media. Time spent for TV on the other hand weighs an average of 2 hours and 17 minutes. The most used social mediums can be listed as Facebook, WhatsApp and Facebook Messenger followed by Twitter, Google + and Skype.

As illustrated by above findings, the new-media communications mediums and its tools marks digitalization and interactivity of shared and/or generated content fostering a new style of marketing characterized by starting conversation and building a community. Participatory and interactive platforms have given many businesses the chance to enhance brand awareness and equity; one such medium is second screens. Second screen and social TV are still novelty trends for many content providers; their influence on global ratings is not yet clearly understood. On the quest to integrate TV with social media, PR as well as marketing professionals seek to find out what consumers are actually using their second screens for, what they engage with, and for how long. In 2015 media professionals discovered the compatibility of product placement appeals with the use of second screens; converting TV leads into ROI and illustrated through case findings that second screens can be utilized to establish PR objectives namely building awareness, knowledge, interest, creating intent and spurring advocacy through social-psychological theories of behavior and change activated via product placement endorsements.

This paper is the first study in Turkey to look at how TV leads can be converted into ROI via the use of second screens and how PR value can be created on the digital through product placement appeals by drawing attention, creating interest, building desire and triggering action through marketing, branding and reputation via the informational and persuasive power of product

placement integrations. Media industry have always been on the hunt for a medium that keeps the viewers hooked, fosters a context that communicates suspense, empathy, emotion, aspiration, attains ultimate reach and conveys brand messages without disrupting the viewer experience.

Numerous Millward Brown studies have shown the advantage of a well-planned, synergized 360 media plan in increasing sales, profits and brand equity (millwardbrown.com). Syncing provides great opportunities to reach audiences over multiple channels at the same time one of which can be stated as competitor ad targeting.. This feature enables to heighten message effectiveness, boosting exposure and thus increasing ROI. As stated by * synching can be even extended to web searches to further personalize the consumer experience thus increasing the persuasive power of a given call to action. Second screen integrations should not be implemented for the sake amplification and frequency, but as a captivating storytelling opportunity and a new medium to add extra value.

In the near future the industry forecasts that second screen integrations and the use of synching technologies will be on the rise. Thereafter it can be noted that it is an innovative era for media planning and buying. However, the extent of impact of this type of PR Marketing will be figured out in the coming years as second screen executions increase which will pave the way for its impact on brand and behavior to be eventually understood.

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THE COMMERCE CLAUSE, STATE TAXATION, AND THE INTERNAL CONSISTENCY TEST

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ABSTRACT

In Comptroller of the Treasury of Maryland v. Wynne, the Supreme Court ruled that Maryland's personal income tax scheme is unconstitutional as it violates the dormant Commerce Clause. It taxes its residents' income earned from sources within and outside Maryland without providing a tax credit against the "county" tax for the taxes paid to the other states where the income is sourced. The Court relied on its precedents that the dormant Commerce Clause precludes states from discriminating "between transactions on the basis of some interstate element." It noted a state may have authority to tax a taxpayer without violating the Due Process Clause, but the tax may nonetheless violate the Commerce Clause. Ruling that the tax is discriminatory double taxation, creating an incentive to engage in intrastate rather than interstate economic activity, the Court applied the internal consistency test, which "looks to the structure of the tax at issue to see whether its identical application by every State in the Union would place interstate commerce at a disadvantage as compared with commerce intrastate." It held that Maryland's tax scheme is inherently discriminatory and operates as a state tariff, which is "the quintessential evil targeted by the dormant Commerce Clause." The Court provided that a state has flexibility in curing an impermissibly discriminatory tax. It may provide a tax credit or some other method of fair apportionment.

INTRODUCTION

In today's economy, state and local governments are more and more strapped for funds to provide services to their citizenry. Many are incurring large deficits requiring the need to raise additional revenues and/or cut expenses by eliminating or reducing the services they provide. The power to tax is an important element in their ability to raise revenues. While our governing system of federalism provides a level of sovereignty to the states, their taxing power is not without limit. The Framers of the Constitution recognized the importance of interstate commerce to the growth of the nation and were concerned with economic balkanization due to each state's taxing and regulatory powers.

The Commerce Clause of Article I, Section 8 of the U.S. Constitution provides Congress with the power to "regulate commerce …among the several States." This positive grant of power was given to Congress to address economic discrimination by states through their tax or regulatory powers whereby intrastate commerce is favored over interstate commerce. Courts have inferred from this grant of power to Congress a negative aspect prohibiting states from discriminating against or unduly burdening interstate commerce by subjecting it to multiple taxation or unfairly apportioned taxation, even in the absence of Congressional legislation. *Oklahoma Tax Comm'n v. Jefferson Lines, Inc.,* 514 U.S. 175, 179 (1995) (*Jefferson Lines*). This implicit aspect of the Commerce Clause is referred to as the "negative" or "dormant" Commerce Clause (DCC). While the DCC has many areas of application, the state taxation of interstate commerce is the focus herein.

Another primary limitation the Constitution places on states' powers to tax is the Due Process Clause (DPC) of the 14th Amendment which provides "[N]or shall any State deprive any

person of life, liberty, or property without due process of law. …" The Supreme Court in *Miller Brothers Co. v. Maryland,* 347 U.S. 340, 344-345 (1954) ruled that the DPC requires "some definite link, some minimum connection between a state and the person, property, or transaction it seeks to tax." Also in *Moorman Mfg. Co. v. Bair,* 437 U.S. 267, 273 (1978) (*Moorman*) (citation omitted), the Court ruled that the "income attributed to the State for tax purposes … be rationally related to the 'values connected with the taxing State'."

Under the DPC, the Supreme Court has held that a state may tax its residents' income whether earned in or out of the state. It also may tax a non-resident's income if it was earned within the state. *Oklahoma Tax Comm'n v. Chickasaw Nation,* 515 U.S. 450, 462-63 (1995) (*Chickasaw Nation)* and *Lawrence v. State Tax Comm'n,* 286 U.S. 276, 279-80 (1932). This may lead to the double taxation of income earned as a result of interstate commerce because the state of residency or domicile may tax the income as well as the state where the income is sourced. Accordingly, interstate commerce may be adversely affected. In *Quill Corp. v. North Dakota,* 504 U.S. 298, 305 (1992) (*Quill*), the Supreme Court ruled that "while a State may, consistent with the Due Process Clause, have the authority to tax a particular taxpayer, imposition of the tax may nonetheless violate the Commerce Clause." The Court reasoned that the DPC and DCC "reflect different Constitutional concerns." The primary concern of the DPC is that there is sufficient nexus to provide the state with the power to tax. Clearly, in the case of residence, nexus exists, as the inhabitants of a state subject themselves to the rights and privileges of the state; for example, access to public services and the protection afforded by state law. Conversely, the primary aim of the Commerce Clause is to ensure that a state does not negatively impact interstate commerce; thus, it serves to prevent a state from impermissibly engaging in the federal realm. The DCC serves to prevent a state's power to tax from significantly burdening interstate commerce.

The DCC precludes states from "discriminat[ing] between transactions on the basis of some interstate element." *Boston Stock Exchange* v. *State Tax Comm'n*, 42 S U.S. 318, 332 (1977). While it was not always referred to as the DCC, its principles have long been established even though there has been some dissent to this interpretation of the Commerce Clause. *See, Gibbons v. Ogden,* 22 U.S. 1, 9 Wheat. 1, 209 (1824) (Marshall, C. J.); *Case of the State Freight Tax,* 82 U.S. 232 (1873); *Camps Newfound/Owatonna, Inc.* v. *Town of Harrison*, 520 U.S. 564, 609-620 (1997)(Thomas, J., dissenting); *Tyler Pipe Indus.* v. *Washington State Dep't of Revenue*, 483 U.S. 232, 259-265 (1987) (Scalia, J., concurring in part and dissenting in part); *License Cases*, 5 How. 504, 578-579 (1847) (Taney, C. J.). In accord with the purpose of the Commerce Clause, the DCC prevents state tariffs, which are the "paradigmatic example of a law discriminating against interstate commerce," as stated in *West Lynn Creamery, Inc.* v. *Healy,* 512 U.S. 186, 193 (1994). In *Armco Inc.* v. *Hardesty*, 467 U.S. 638, 642, (1984), the Supreme Court held that a state "may not tax a transaction or incident more heavily when it crosses state lines than when it occurs entirely within the State." The DCC serves to prevent a state's tax scheme from discriminating against interstate commerce due to discriminatory double taxation of income earned out of state or by creating an incentive to conduct intrastate rather than interstate commercial activity.

In *Complete Auto Transit Inc. v. Brady,* 430 U.S. 274, 279 (1977) (*Complete Auto),* the Court stated that in applying the DCC, it must consider "not the formal language of the tax statute, but rather its practical effect." Once it is determined that a state income tax affects interstate commerce so that the DCC applies, the four-prong test set forth in *Complete Auto* must be applied to determine if the state tax places an undue burden on interstate commerce based on its practical effect. All four parts of the test must be satisfied in order for the tax not to violate the Commerce Clause. The *Complete Auto* test requires that the tax was "[1] applied to an activity with a substantial nexus with the taxing State, [2] is fairly apportioned, [3] does not discriminate against interstate commerce, and [4] is fairly related to the services provided by the State." The second and third prongs of the test are relevant for the discussion herein.

The requirement that the tax be fairly apportioned to the activity serves to "ensure that each State taxes only its fair share of an interstate transaction," as provided in *Jefferson Lines,* 514 U.S., at 184. *See also, Goldberg v. Sweet,* 488 U.S. 252, 260-61 (1989). In *Container Corp. of America v. Franchise Tax Bd.,* 463 U.S. 159, 169 (1983) (*Container Corp.),* the Court provided that for a tax to be fairly apportioned, it requires "internal consistency" and "external consistency." The external consistency test is only applied if the tax is found to be internally consistent. The internal consistency test generally requires that interstate commerce would not be at a disadvantage when compared with solely intrastate commerce. The Supreme Court, in *Jefferson Lines,* 415 U.S., at 185, stated with regard to the internal consistency test: "Internal consistency is preserved when the imposition of a tax identical to the one in question by every other State would add no burden to interstate commerce that intrastate commerce would not also bear. This test asks nothing about the economic reality reflected by the tax, but simply looks to the structure of the tax at issue to see whether its identical application by every State in the Union would place interstate commerce at a disadvantage as compared with intrastate commerce. A failure of internal consistency shows as a matter of law that a State is attempting to take more than its fair share of taxes from the interstate transaction, since allowing such a tax in one State would place interstate commerce at the mercy of those remaining States that might impose an identical tax." In general, the external consistency test asks "whether the State has taxed only that portion of the revenues from the interstate activity which reasonably reflects the in-state component of the activity being taxed." *Container Corp.,* 463 U.S., at 169-170.

In *Comptroller of the Treasury of Maryland v. Wynne,* 135 S. Ct. 1787 (2015) (*Wynne*), the Supreme Court applied the DCC and in a 5-4 decision ruled that the Maryland personal income tax scheme is unconstitutional. It affirmed the decision of the Court of Appeals of Maryland in *Maryland State Comptroller of the Treasury v. Wynne,* 431 Md. 147, 64 A. 3d 453 (MD, 2013), *aff'd,* 135 S. Ct. 1787 (2015) (*Wynne I*).

In *Wynne I,* the court applied the four-part test of *Complete Auto* and ruled that the tax failed both the fair apportionment and non-discrimination parts of the test. Regarding fair apportionment, it held that the tax failed both the internal and external consistency tests. The tax failed the internal consistency test as interstate commerce would be taxed at a rate higher than intrastate commerce if every state adopted Maryland's tax scheme. Thus, the tax negatively impacts interstate commerce as Maryland places a higher tax burden on its residents who engage in commercial activity outside of Maryland than it imposes on its residents conducting business only in Maryland, which serves as an incentive for Maryland's residents to conduct their business affairs solely within Maryland. The tax failed the external consistency test as the tax scheme created a risk of multiple taxation.

Regarding non-discrimination, the court ruled that the tax is discriminatory with regard to interstate commerce as it denied Maryland residents a credit against the "county" tax for income taxes paid to other states where the income is sourced. Accordingly, Maryland taxes income earned intrastate at a rate lower than income earned interstate. After issuing its opinion, the Court of Appeals denied a move for reconsideration and clarified that "[a] state may avoid discrimination against interstate commerce by providing a tax credit, or some other method of apportionment, to avoid discriminating against interstate commerce in violation of the dormant Commerce Clause." *Wynne I,* 431 Md., at 189.

Wynne I affirmed the decision of the Circuit Court for Howard County, the order and opinion of which are unreported, holding that Maryland's tax system violated the Commerce Clause. The Circuit Court for Howard County reversed the Maryland Tax Court, the order and ruling of which are unreported, which affirmed the deficiency assessment issued by the Maryland Comptroller against the Wynnes due to the denial of the tax credit against the "county" tax. Initially the Hearings and Appeals Section of the Comptroller's Office affirmed the assessment after a slight modification.

Before dissussing *Wynne*, an overview of the relevant sections of the Maryland personal income tax scheme is in order.

OVERVIEW OF MARYLAND PERSONAL INCOME TAX SCHEME

Maryland imposes a personal income tax. Maryland Code, Tax-General Article (TG) §10-101 *et seq*. For Maryland residents, the tax is levied on all of a resident's income, wherever earned, with some adjustments, and has two components. The first component is a "State" income tax, set at graduated rates which are the same for all Maryland residents. TG §10-105(a). The second component is a "county" income tax, which is set at a rate that varies by county but is capped at 3.2%. TG §§ 10-103, 10-106. Despite the nomenclature of these taxes, both are state taxes and are collected by the State's Comptroller of the Treasury. *Frey v. Comptroller of the Treasury,* 29 A. 3d 475, 492 (Md., 2011).

If a Maryland resident earns income in another jurisdiction and pays income tax to that jurisdiction, Maryland allows its resident a credit against the "State" tax but not the "county" tax. TG § 10-703(a) provides that "a resident may claim a credit *only* against the State income tax for a taxable year in the amount determined under [TG § 10-703] for State tax on income paid to another state for the year." (Emphasis added.) The Maryland legislature amended the tax code in 1975 to provide that the credit only applies to the "State" income tax and no longer applies to the "county" income tax. Generally, the credit ensures that Maryland receives at least the Maryland income tax due on the taxpayer's income attributable to Maryland, despite another state's method or rate of taxation. *See,* TG § 10-703(c)(1)(ii). Since the tax credit does not apply to the "county" tax, Maryland residents may be taxed twice on income they earned in another state.

Maryland also taxes its nonresidents on the income they earn from sources within Maryland. The tax on nonresidents has two components. The first component is that nonresidents pay the same "State" income tax as residents. TG § 10-105(d). The second component provides that nonresidents either pay the "county" income tax where they work, or a special nonresident tax (SNRT) in lieu of the "county" tax at a rate equal to the "lowest County income-tax rate." *See,* TG § 10-103(a)(4) and TG § 10-106(1). Income earned by nonresidents from sources outside Maryland are not taxed by Maryland. *See,* TG § 10-210.

WYNNE

In *Wynne,* the Supreme Court affirmed *Wynne I* and ruled that the Maryland personal income tax scheme violated the dormant Commerce Clause. The Court relied upon its precedents and held that the tax was unconstitutional as it resulted in the discriminatory double taxation of income earned outside of Maryland and provided an incentive for Maryland residents to engage in commercial activity in Maryland rather than in another state. It ruled that the tax failed the internal consistency test and is inherently discriminatory and operates as a tariff.

The facts in *Wynne* are not complex. Bryan and Karen Wynne, a married couple with five children, are residents of Maryland. In 2006, the tax year at issue, they resided in Howard County, Maryland. In 2006, Mr. Wynne owned a 2.4 percent ownership in Maxim Healthcare Services, Inc. (Maxim). Maxim is a Subchapter S tax corporation for federal tax purposes. As such, it is a pass-through entity similar to a partnership which passes its income, losses, deductions, and credits through to its shareholders for tax purposes. Hence, the Wynnes reported the income passed through from Maxim on their federal income tax return. Since Maryland affords similar pass-through treatment to the income of S corporations, the Wynnes also reported the income passed through from Maxim on their 2006 Maryland tax return. In 2006, Maxim earned income in states other than Maryland and filed state tax returns in 39 states. On their 2006 Maryland tax return, the Wynnes claimed an income tax credit for income taxes paid by Maxim and the Wynnes to the other 39 states on the income passed through by Maxim to the Wynnes. The Wynnes claimed the income

tax credit against both the Maryland "State" and "county" income taxes pursuant to TG § 10-703. The Maryland State Comptroller of the Treasury, in accordance with Maryland law, denied the income tax credit with regard to the "county" income tax, and assessed a tax deficiency. After the Wynne's challenge to the deficiency worked its way through the Hearing and Appeals Section of the Comptroller's Office, Maryland Tax Court, Circuit Court for Howard County, and the Court of Appeals of Maryland, the Supreme Court granted certiorari in 572 U.S. ____, 134 S. Ct. 2660.

The Court relied upon its existing DCC precedent in reaching its decision and referenced three cases in particular involving the income taxation of domestic corporations. The Court, in *J. D. Adams Mfg. Co.* v. *Storen*, 304 U.S. 307 (1938) (*J.D. Adams)*, struck down an Indiana income tax scheme similar to the one in Maryland. Since Indiana taxed all of its residents' income, including individuals and the income derived from sources within Indiana of nonresidents, the Court ruled that the tax scheme violated the DCC. It held that since Indiana levied the tax on income earned by J.D. Adams Mfg. Co., an Indiana corporation, on sales made out of Indiana, the tax was made on receipts generated by commercial activity from interstate commerce without apportionment. The Court warned that if the receipts were also taxed by the states where the sales occurred, interstate commerce would possibly be subjected to double taxation, and intrastate commerce would not be subjected to the same burden.

In *Gwin, White & Prince, Inc.* v. *Henneford*, 305 U.S. 434 (1939) (*Gwin, White*), the Court reached a similar result, where the state of Washington taxed all the income on persons doing business in Washington. Gwin, White & Prince, Inc. shipped fruit to other states and foreign countries, and Washington taxed the income derived from the sales. The Court stated that the tax "discriminates against interstate commerce, since it imposes upon it, merely because interstate commerce is being done, the risk of a multiple burden to which local commerce is not exposed." *Gwin, White,* 305 U.S., at 439.

In *Central Greyhound Lines, Inc.* v. *Mealey*, 334 U.S. 653 (1948) (*Central Greyhound*), the Court ruled that the New York scheme's taxing of the gross receipts of Central Greyhound Lines, Inc., a New York domiciliary, that were derived from services provided in neighboring states violated the DCC. Since the neighboring states might also attempt to tax the portion of the gross receipts due to the services provided in the state, the tax imposed an unfair burden on interstate commerce.

The majority in *Wynne* rejected the principal dissent's distinguishing of the three cases on the ground that they involved a tax on gross receipts rather than net income. It noted that pursuant to *Complete Auto*, the Court must consider the practical effect of the tax statute as opposed to its formal language, and that it had rejected such a formal distinction in a line of cases beginning with the seminal case, *Western Live Stock v. Bureau of Revenue,* 303 U.S. 250 (1938). The Court stated, "And we have now squarely rejected the argument that the Commerce Clause distinguishes between taxes on net and gross income. *See, Jefferson Lines,* 514 U.S., at 190 ... (explaining that the Court in *Central Greyhound* 'understood the gross receipts tax to be simply a variety of tax on income'); *Moorman Mfg. Co.* v. *Bair,* 437 U.S. 267 … (rejecting a suggestion that the Commerce Clause distinguishes between gross receipts taxes and net income taxes)." *Wynne,* 135 S. Ct., at 1796. Furthermore, *J.D. Adams, Gwin, White,* and *Central Greyhound* were based on the possibility of multiple taxation and the distinction between gross receipt and net income taxes was not a factor.

The Court rejected the argument that *J.D. Adams, Gwin, White,* and *Central Greyhound* are distinguishable on the ground that they involve corporations rather than individuals. It stated, "It is hard to see why the dormant Commerce Clause should treat individuals less favorably than corporations." In addition, it reasoned that both the Indiana tax invalidated in *J.D. Adams* and the Washington tax in *Gwin, White* applied to the income of both individuals and corporations. Also, the Court did not see a distinction between individuals and corporations due to the fact that the States provide their individual residents with services because corporations also benefit from state and local services. Furthermore, the Court did not view the right of an individual to vote as

distinguishing a corporation from an individual, even though the right to vote gives individuals the ability to remove legislators who support state laws that burden interstate activities. The Court stated, "If a State's tax unconstitutionally discriminates against interstate commerce, it is invalid regardless of whether the plaintiff is a resident voter or nonresident of the State."

The majority rejected the position taken by the principal dissent that the DCC cannot constrain the Maryland tax scheme from exposing its residents and nonresidents to the threat of double taxation, as under the DPC Maryland may tax its residents on their income no matter where it is earned. Citing *Chickasaw Nation* and *Quill,* the Court opined that while the DPC may give a state the power to tax a taxpayer, the tax may nonetheless be unconstitutional as it violates the Commerce Clause. The Court reasoned that to rule otherwise would cause a major change in its Commerce Clause jurisprudence. It stated, "Legion are the cases in which we have considered and even upheld dormant Commerce Clause challenges brought by residents to taxes that the State had the jurisdictional power to impose. … After all, in those cases, as here, the State's decision to tax in a way that allegedly discriminates against interstate commerce could be justified by the argument that a State may tax its residents without any Commerce Clause constraints." *Wynne*, 135 S. Ct., at 1799-1800.

The Court applied the internal consistency test, noting, "This test, which helps courts identify tax schemes that discriminate against interstate commerce, looks to the structure of the tax at issue to see whether its identical application by every State in the Union would place interstate commerce at a disadvantage as compared with commerce intrastate. [*Jefferson Lines*] 514 U.S., at 185 …" The Court opined, "By hypothetically assuming that every State has the same tax structure, the internal consistency test allows courts to isolate the effect of a defendant State's tax scheme. This is a virtue of the test because it allows courts to distinguish between (1) tax schemes that inherently discriminate against interstate commerce without regard to the tax policies of other States, and (2) tax schemes that create disparate incentives to engage in interstate commerce (and sometimes result in double taxation) only as a result of the interaction of two different but nondiscriminatory and internally consistent schemes. See ... *Moorman*, 437 U.S., at 277, n. 12 … The first category of taxes is typically unconstitutional; the second is not. [The Court noted here in a footnote that "Our cases have held that tax schemes may be invalid under the dormant Commerce Clause even absent a showing of actual double taxation."] … Tax schemes that fail the internal consistency test will fall into the first category, not the second: '[A]ny cross-border tax disadvantage that remains after application of the [test] cannot be due to tax disparities' … but is instead attributable to the taxing State's discriminatory policies alone." *Wynne*, 135 S. Ct., at 1803.

Evaluating the Maryland income tax scheme as a whole, the Court ruled that it fails the internal consistency test. It stated, "A simple example illustrates the point. Assume that every State imposed the following taxes, which are similar to Maryland's 'county' and 'special nonresident' taxes: (1) a 1.25% tax on income that residents earn in State, (2) a 1.25% tax on income that residents earn in other jurisdictions, and (3) a 1.25% tax on income that nonresidents earn in State. Assume further that two taxpayers, April and Bob, both live in State A, but that April earns her income in State A whereas Bob earns his income in State B. In this circumstance, Bob will pay more income tax than April solely because he earns income interstate. Specifically, April will have to pay a 1.25% tax only once, to State A. But Bob will have to pay a 1.25% tax twice: once to State A, where he resides, and once to State B, where he earns the income." *Wynne*, 135 S. Ct., at 1803-1804. Bob pays the 1.25% tax to state B as a nonresident pursuant to the "special nonresident" tax.

The Court reasoned that Maryland's tax scheme inherently discriminates against interstate commerce without regard to the tax policies of other states. Its treatment of interstate commerce is not discriminatory as a result of the interaction of two different but nondiscriminatory and internally consistent schemes; i.e., its interaction with the taxing schemes of other states. In fact, the Court held that it operates as a tariff. It stated, "Maryland's tax scheme is inherently discriminatory and operates as a tariff … This identity between Maryland's tax and a tariff is fatal because tariffs are

'[t]he paradigmatic example of a law discriminating against interstate commerce.' *West Lynn*, 512 U.S., at 193 … After all, 'tariffs against the products of other States are so patently unconstitutional that our cases reveal not a single attempt by any State to enact one. Instead, the cases are filled with state laws that aspire to reap some of the benefits of tariffs by other means.' *West Lynn*, *supra*, at 193 … In this case, the internal consistency test and economic analysis—indeed, petitioner's own concession—confirm that the tax scheme operates as a tariff and discriminates against interstate commerce, and so the scheme is invalid." *Wynne*, 135 S. Ct., at 1804.

The Court reasoned that the fact that Maryland receives less tax revenue from residents who earn income from interstate commerce as opposed to intrastate commerce, due to the fact that it provides a credit against the "state" income tax, does not render the tax scheme constitutional. The Court stated, "This argument is a red herring. The critical point is that the total tax burden on interstate commerce is higher, not that Maryland may receive more or less tax revenue from a particular taxpayer. … Maryland's tax unconstitutionally discriminates against interstate commerce, and it is thus invalid regardless of how much a particular taxpayer must pay to the taxing State." *Wynne*, 135 S. Ct., at 1805.

The Court rejected the argument that its analysis requires a state tax scheme based on residence to recede to a state tax scheme based on the source of the income. It opined that it did not establish that rule of priority and reasoned that Maryland's tax scheme would satisfy the internal consistency test and not be inherently discriminatory if it offered a credit against income tax paid to other states. It noted that it was not foreclosing the possibility that Maryland could satisfy the Commerce Clause in a way other than offering such a credit. To illustrate, the Court tweaked its hypothetical with April and Bob and stated, "[A]ssume that all States impose a 1.25% tax on all three categories of income but also allow a credit against income taxes that residents pay to other jurisdictions. In that circumstance, April (who lives and works in State A) and Bob (who lives in State A but works in State B) would pay the same tax. Specifically, April would pay a 1.25% tax only once (to State A), and Bob would pay a 1.25% tax only once (to State B, because State A would give him a credit against the tax he paid to State B). " *Wynne*, 135 S. Ct., at 1805 – 1806.

CONCLUSION

In *Wynne I*, the Supreme Court applied the DCC and opined that the Maryland personal income tax scheme was unconstitutional because it did not allow a credit against the "county" tax for taxes paid to other states for income earned in those states. It ruled that even though the DPC allows Maryland to tax residents on all their income, even if earned outside Maryland, the Maryland tax scheme nonetheless violated the Commerce Clause. The Court relied upon its precedents holding as unconstitutional tax schemes resulting in the discriminatory double taxation of income earned out of state and providing an incentive to engage in intrastate as opposed to interstate commercial activity. The Court applied the internal consistency test, noting, "This test, which helps courts identify tax schemes that discriminate against interstate commerce, looks to the structure of the tax at issue to see whether its identical application by every State in the Union would place interstate commerce at a disadvantage as compared with commerce intrastate." Evaluating the Maryland income tax scheme as a whole, the Court ruled that it failed the internal consistency test. The Court opined that it inherently discriminates as it operates as a tariff, which is the "paradigmatic example of a law discriminating against interstate commerce."

The Court noted that a state with an impermissibly discriminatory tax scheme has flexibility in curing the tax. After *Wynne*, Maryland followed the near-universal state practice of providing credits against personal income taxes for taxes paid to other states, and amended TG § 10-703(a) to provide that the credit applies to both the "State" and "county" taxes. States must apply *Wynne* and analyze their tax schemes. Those that discriminate against interstate commerce due to discriminatory double taxation or a tax that is not fairly apportioned must cure the tax by

providing for a tax credit for the taxes paid to another state for income earned in that state, or by some other method of apportionment to avoid violation of the DCC.

Residents of Maryland and other states with similar tax schemes who earned income due to interstate economic activity and did not receive a credit for taxes on that income paid to other states should file claims for refunds for prior tax periods that have not been time-barred by the statute of limitations. Maryland residents who qualify may file for refunds as far back as 2011. As a result of these refunds and future tax credits, Maryland and local governments within Maryland will suffer a shortfall in anticipated revenues. It was estimated that there were $45 to $50 million dollars per year in tax revenues at stake in *Wynne*. These shortfalls must be made up through the raising of revenues in other ways, such as increasing the personal income tax rates and/or increasing regressive property and sales taxes, or by reducing the services provided or by some other measure.

Residents of Maryland who qualify for the refund claim may be heard to exclaim, "*Wynne*-er, *Wynne*-er, chicken dinner!"

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PLANNING FOR THE KNOWN, UNKNOWN AND IMPOSSIBLE – RESPONSIBLE RISK MANAGEMENT TO MAXIMIZE ORGANIZATIONAL PERFORMANCE

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ABSTRACT

All too often organizations apply risk management principles only to specific projects or operations within the business. In fact, risk management principles need to apply across the entire organization if potential risks are to be avoided and organizational goals maximized. This research looks at risks that are often unanticipated, how to evaluate the risk, assess the level of damage, evaluate the impact on the future of the organization, determine a responsible level of risk tolerance, and develop management practices to manage risk. We'll look at not only identification and assessment of risk but also how to avoid, mitigate, incorporate or transfer risk. What are the early warning signs and what are the costs to reduce risk? Specific examples that will be examined include computer/document/internet risk, employee/human resource risk, product liability/sale/design risk, market/competition risk, and various legal risks. Finally, we provide recommendations all organizations can apply to maximize the effectiveness and stability of their operations through responsible risk management.

Keywords: risk management, corporate strategy, project management, insurance

INCORPORATING RISK INTO CORPORATE STRATEGY

Risk management should be part of every organization's corporate strategy (Anderson, 2006). The incorporation of risk should include more than just the "Black Swan" (Taleb, 2007) catastrophic events which can cripple an organization but also those relatively minor events which can hurt the effectiveness of day to day operations. The results of proper risk analysis includes more than reducing the negative impact of risks, they also include identifying the risk tolerance and risk appetite so that an organization can make better strategic decisions moving forward (RIMS Executive Report 2012).

Most risk management applies a qualitative matrix analysis using impact and probably (Dumbravă 2013). There has been some concern about the use of matrixes to quantify and qualify risk (Cox 2008) especially when organizations are being asked to evaluate an unknown sometime in the future. However, the use of risk matrices in strategic planning can be improved be adding a third factor, the element of "time" in risk analysis. This concept has been long recognized. The ancient Chinese philosopher Lao Tzu wrote, "The biggest problem in the world could have been solved *when* it was small." (italics added) (Bynner 1944). Organizations develop plans for implementation of strategy based on short term and long term planning. Therefore, for risk analysis to best assist an organization's corporate strategy it has to look at how the probability of an event changes over time. While some events may have a low probability in the short term, such as interest rates rising substantially, in the long term the probability of such risk may increase. Therefore, an improved risk analysis includes the matrices of impact, probability and time. More importantly,

improved risk management includes a matrix of organizational procedures and processes to reduce risk.

RISKING THE ORGANIZATION'S EXISTENCE

Many will argue that those Black Swan events, which could completely change an organization, cannot be adequately planned for simply because they are so rare and unforeseeable. Clearly, few could have predicted the development of the internet or the fall of the Soviet Union (Taleb 2007). But we only have to take a small step away from those atypical occurrences to find events with significant impact that an organization could have foreseen and planned for. All high risks that threaten the existence of the organization must be assessed.

Corporations around the world have experienced many risk management failures in recent years (OECD 2014). Chipotle, Target, Volkswagen and Takata are just a few of the many examples of businesses that have experienced high impact events that have significantly harmed the company. In each case, a more comprehensive risk management plan could have reduced the immediate impact and provided a strategy to mitigate further losses.

Chipotle

Chipotle is a chain of 1900 restaurants employing 45,000 people with a reputation for serving quality Mexican fast food. The chain built its reputation primarily with its focus on serving very fresh, organic vegetables. However, that reputation and the very existence of the company, was severely damaged in 2015 when many Chipotle customers in a number of states became ill from E. coli poisoning and salmonella. Shortly after the E. coli problems started a Chipotle restaurant in Boston was found to be the source of the norovirus infection in approximately 140 customers. With the Center for Disease Control investigating the harm to customers, some local health departments closing Chipotles, and lawsuits filed against the chain by sickened customers, the continued existence of the company was threatened. In the last quarter of 2015 Chipotle profits were down 44% and as a result the value of its stock dropped more than 30%. It had lost the reputation for quality that it had built over 20 years in just a few months. Could Chipotle have had better risk assessment and processes in place to prevent this hazard? Clearly, the risk of contaminated vegetables in the supply chain was foreseeable. Likewise, the possibility that the contamination could occur in the preparation by Chipotle was also probable. Chipotle is now spending millions on retraining its employees and also working with its suppliers to reduce potential contamination. Arguably, greater in-depth risk analysis in its strategic planning would have helped the chain reduce not only the probably but also the impact of this risk.

Target

Christmas is the time of year when most large retailers, such as Target, have their most profitable months. In 2013, right at the beginning of the Christmas buying season on "Black Friday", Target was hit by hackers who stole credit card information from 40 million Target customers.

> "2014 will long be remembered for a series of mega security breaches and attacks starting with the Target breach in late 2013 and ending with Sony Pictures Entertainment. In the case of the Target breach, 40 million credit and debit cards were stolen and 70 million records were stolen…" (Ponemon 2015)

Virtually all of the chain's 1700 plus stores were involved. Most data was stolen at the point of sale from the magnetic strips on credit cards. It included not just the card numbers, but the

names, CVV codes, ATM pin data, expiration dates, phone numbers and addresses. The thefts continued over a three week period and the resulting fraud by use of the stolen card information became so large the Secret Service and U.S. Department of Justice became involved. Some experts have analyzed the breach and determined that Target failed to implement fundamental data protection measures (Vijayam 2014). Could Target have conducted better risk analysis to foresee the probability of this happening? While it may not have eliminated the risk, such planning perhaps could have helped Target have better risk management controls in place to sooner discover the data theft rather than letting the hackers continue to grab customers information for three weeks.

Volkswagen

Volkswagen, the second largest car manufacturer in the world after Toyota, admitted in September 2015 that it had installed software to cheat emission standards in more than 570,000 cars sold in the U.S. The software was programmed to cheat governmental testing by reducing emissions only when the car was hooked up for testing. When the car was disconnected from the testing equipment the software would turn off and the vehicle would return to emitting 40 times more nitrogen oxide than allowed by law. The U.S. Environmental Protection Agency ordered a recall of Volkswagen cars sold between 2009-15. Volkswagen owners quickly saw the resale value of their vehicles plummet and many lawsuits were filed against the company. Volkswagen stock fell almost 40% in September 2015 and its CEO resigned. But could the company have had better internal risk management controls in place to make sure this illegal software was not installed? Years before, the Bosch company had provided the software to Volkswagen but had told them it would be illegal to use during emission testing. A risk management plan, establishing better internal checks and balances, may have prevented this software from being misused.

Takata

Takata is one of the largest airbag manufacturers in the world with its products installed in Honda, Toyota, Ford, Nissan and Mercedes Benz vehicles. In 2013 it was discovered that the airbag inflators containing ammonium nitrate were extremely dangerous when discharged, resulting in hundreds of injuries and a number of deaths. In November, 2015, the National Traffic Highway Safety Administration fined Takata $70 million. All the of the vehicle manufacturers with Takata airbags have been issuing recalls since the defect was discovered. The recall now involves more than 19 million vehicles. It's claimed that both Takata and Honda knew of the airbag problem many years ago but took no action because they did not view the number of incidents as significant. Attorneys are still running advertisements telling potential clients that they will help them sue Takata if they were injured by one of the defective airbags. Arguably, greater risk analysis could have prevented many of the injuries and deaths from the improperly designed airbags.

DEVELOPING A RISK MANAGEMENT PLAN

There are many examples of companies who have incorporated successful risk management planning into their corporate strategy including Infosys, GE Capital and JP Morgan Chase (Enterprise Risk Management-HBS 2008). Unfortunately, the cost of a successful risk management plan is often not fully appreciated and incorporated into strategic plans (OECD 2014). In order for a risk management plan to fully cover an organization it must be undertaken at all three levels: director, management and operational.

At the director level, governing boards, trustees, and senior leadership need to set the organization's risk appetite and tolerance (Choi 2013). Setting the level of appetite and tolerance not only minimizes risk but sets policy to maximize opportunities (Bekefi 2008). At the management level, managers need to insure controls are in place. Management also needs to

establish processes to determine whether those controls will respond automatically or require employee action. With regard to immediate threats, employees at the operational level of an organization are often more aware of risks than those at the top of an organization (Simons 1999). Clearly, all levels of the organization need to be involved in risk analysis. Finally, each risk also needs to be categorized as preventable (internal), strategic, or external (Kaplan 2012).

THE ELEMENT OF TIME IN RISK ASSESSMENT

Three risk matrices are necessary to adequately conduct risk assessment: time/impact, probability/impact, and control/process. The first matrix provides a framework to evaluate the level of impact and the time frame in which it could occur. Not only is the degree of harm significant to evaluate, the time frame in which the event may occur likely will change the probability of occurrence. By conducting this evaluation of impact and time first the organization can best address risk in its strategic plan.

MATRIX I – IMPACT AND TIME

Severe			Corporate Takeover	Natural Disaster
Significant	Union Strike	Increased Regulatory Compliance	Competitor Entering Market	SEC Investigation
Moderate		Supplier Bankruptcy	Key Personnel Retirement	Interest Rates Change
Mild	Product Defect under Warranty	New Minimum Wage Law		Workplace Accidents
Impact ↑ / Time ➔	**Immediate ≤ 30 Days**	**Near Term ≤ 1 Year**	**Long Term ≤ 5 Years**	**Unknown Time Frame**

Once the organization can evaluate possible risks within a time frame matrix then it can better evaluate the probability of the risk occurring. For example, if there is the potential of a union strike and the parties are far apart with regard to their positions, an organization might evaluate the possibility of the risk occurring as highly probable in the short term. Likewise, if a competitor entering the market would have the potential for significant harm, but there were barriers to entry so that it could not happened in the "Near Term", the organization must then evaluate the probability of it happening within a longer time frame. If the risk falls within the "Unknown Time Frame" note the calculation of probability is even more important.

ANALYSIS OF PROBABILITY-THE TOLERANCE FOR RISK

In order for an organization to reach its risk target, the amount of risk that it is willing to accept, it must next analyze the probability and impact. Matrix II is an example of the traditional impact and probability comparison. Clearly, those items which fall within the higher impact and probability must be strategically addressed first. For example, if there is a high probability that there will be an SEC investigation of the corporation and that it will have significant impact, then the organization must address it immediately in its risk management strategy.

MATRIX II – IMPACT AND PROBABILITY

Severe	Natural Disaster	Market Downfall	Corporate Takeover	Senior Leadership Resigns
Significant	Union Strike	Increased Regulatory Compliance	Competitor Entering Market	SEC Investigation
Moderate	Breach of Contract Lawsuit	Supplier Bankruptcy	Key Personnel Retirement	Interest Rate Change
Mild	Product Defect under Warranty	New Minimum Wage Law	Tax Audit	Workplace Accidents
Impact ↑ / ➔ **Probability**	**Low**	**Medium**	**Med-High**	**High**

INCORPORATING RISK MANAGEMENT CONTROLS AND PROCESSES INTO COMPETITIVE STRATEGY

A key element to incorporating risk management into competitive strategy is to determine if there are **controls** in place to address risks as they arise as well as a **process** to apply those controls. For example, using the Chipotle situation above, once it appeared that customers were getting ill did Chipotle have controls in place to evaluate the harm by looking at suppliers and also their own restaurant operations? If an organization has controls in place, does it also have an established process to apply them to the risk? For example, in the Target credit card theft case, once the theft was discovered did Target have a process to implement the controls as quickly as possible to stop further theft and use of the stolen data? Matrix III is an example of a controls and process matrix.

MATRIX III

Highly Developed Controls				**Best Case Scenario**
Significant Controls in Place				
Some Controls in Place				
Few Controls in Place				
Controls ↑ ➔ Process	**Transparency of Controls**	**Personnel Trained in Controls**	**Designation of Management Responsibility**	**Checks and Balances**

QUALITATIVE QUESTIONS OF RISK

All of the above qualitative analysis requires individuals within the organization to be able to evaluate risk. Every risk should be evaluated within the following context:

(1) Is the risk internal or external?
(2) Is the risk financial, legal, or operational?
(3) Who does the risk affect?
(4) What is the organization's appetite for this risk?
(5) What is the organization's tolerance for this risk?
(6) Are there controls in place?
(7) Are there processes to implement the controls?
(8) Are immediate actions required?

Qualitative questions apply throughout the organization regardless of the type of risk. For example, if internet access was interrupted it may be due to an internal or external problem. Second, it may cause financial, legal, or operational risk. Third, it may impact only a few individuals or could impact the entire organization. Each of the above questions needs to be addressed for all risks.

MANAGING THE IDENTIFIED RISK

Once the risk is identified organizations need to determine if the risk/reward is acceptable. If the risk is acceptable then it simply needs to be monitored for changes in potential harm/benefits. However, if the risk is not acceptable then the organization needs to take one of three steps: avoid, mitigate or transfer.

While avoiding risk clearly is the most effective strategy to eliminate harm, it may be at the cost of giving up a strategic advantage or opportunity. For example, investing in real estate in

an economically depressed area certainly may have risk but there also is the potential for significant gain if the real estate market comes back. In fact, most losses to shareholder value in the past decade have come from strategic risks (Harvard Business Review 2015).

The second method to manage risk is to mitigate both the probability and the degree of harm. For example, adopting certain standards, such as in the area of information security, can mitigate risk probability (Al-Ahmad 2013). Also, use of independent experts and resources can reduce risk probability. For example, in the area of investments, applying financial modeling can reduce risk.

Mitigation of potential harm is also an important part of strategic risk management. For example, there has been significant growth in the use of cloud computing by businesses during the past five years. However, cloud computing also poses significant risks in the area of security and accessibility (Carstensen 2012). To minimize the risk of harm an organization may wish to encrypt data before it is placed in the cloud. Clearly, using encryption can mitigate the risk of harm as it reduces the amount of data accessible to unauthorized users.

Finally, if an organization can't avoid or mitigate risk, it may transfer the risk. For example, contracting out work to another company may reduce risk. Also, purchasing insurance can reduce the impact of potential harm (Gordon 2003).

CONCLUSION

The above analysis creates a model to balance risk and reward. Organizations have different risk cultures and to maximize organizational performance they should integrate both appetite and tolerance for risk both horizontally and vertically throughout the organization. Identifying risk as a regular operational practice and developing a process to deal with risks as they occur allows the organization to move forward at a faster and safer pace. More importantly, having risk procedures and processes in place allows the organization to deal effectively with changes as they occur. This requires risk communication and training throughout the organization. The result is a competitive advantage through the incorporation of risk management principles and practices into corporate strategy.

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A TUTORIAL ON BONDS, YIELD CURVES AND DURATION

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ABSTRACT

This paper develops and refines a quick method for analyzing bond yields until maturity given their market price. It briefly discusses bond ratings and defines yield curves and examines their characteristics, uses and how information can be derived about market sentiment by their analysis and study. Next, the paper introduces duration as an "elasticity" that measures a fixed income instrument's sensitivity to interest rate changes. Finally, the article demonstrates how the concepts associated with duration can be used to reduce or eliminate interest rate risk as it pertains to financial assets and investment portfolios (i.e. immunization) with three examples.

Key Words: Bonds, Debt, Yields, Duration

PROBLEM STATEMENT

Often senior business students, as well as seasoned investment professionals, do not have a clear idea of the mechanics associated with different types of fixed income financial assets – even though they may have been exposed to some of the concepts in introductory Finance classes. Students study details and specifics in their various undergraduate Economics and Finance courses, but lack the "big picture" of how the various components of bonds, yield curves, duration and immunization all fit together. These components should form a well-integrated package of understanding for graduating Finance students and professional practitioners in the field of fixed income securities. This depth of understanding will allow them to be conversant and well-qualified to manage debt instruments and portfolios of various financial asset classes. To list just a few of the many applications, the proper management of bank loan portfolios, mutual funds and insurance company assets, requires this knowledge.

BACKGROUND/LITERATURE REVIEW

Bonds and other debt instruments: In the US, the standard corporate bond has a face value (or principal value) of $1000 and it pays a specific amount of interest every six months. These traits form the basis for the "bond equation" (equation 1) shown below.

$$\text{Price} = \text{Coupon}\sum(1/(1 + i))^n + \$1000(1/(1 + i))^n \qquad (1)$$

Where: Price is the prevailing trading price of the bond in the market.
Coupon is the cash interest payment remitted every six months.
i is the discount rate - decimal form of the prevailing interest rate.
n is the number of six month periods before the bond matures.

This equation provides the linkage between the prevailing interest rate (i) and the bond's current market price. Once the bond is issued, the only variables that are not fixed are the price and the discount rate (i). A bond is a contract. Once executed, the face value ($1000) does not change. Neither does the coupon (six-month interest payment) change nor does the date until maturity which determines how many six-month periods remain until the bond matures (n). Therefore, a change in "i" affects "Price" to maintain the equality. Notice too, the inverse

relationship between "Price" and "i." If interest rates increase, "Price" must decrease and visa-versa.

When "Price" is known, one can solve for "i." At that point "i" is called the yield until maturity or YTM. As a consequence, the solution to the bond equation is the YTM because, in the real world, the market determines "Price" and the result is the implied YTM. There are three assumptions that must be met in order to except the YTM "solution" to the bond equations. If these assumptions cannot be met, solving for "i" or YTM is rather meaningless.

First, we assume the bond will be held until it matures. If not, and the bond is sold before it matures, we will have to know the selling price in order to calculate what the investor earned over the time he or she owned the bond. Of course, this is common sense. Second, we assume there will be no default on the payment of interest or the payment of principal. This assumption requires further explanation as described in the following paragraph.

In the general sense, default as it relates to bonds, means any breach of the bond contract. For example, if the bond contract calls for the establishment of a sinking fund and the issuing firm does not create and fund the specified sinking fund, technically, the bond is in default. Now, such a default would not affect the validity of the bond equation as long as the proper amount of interest and principal is paid on time, every six months, and when the bond matures (respectively). A late interest payment constitutes a default that would invalidate the YTM calculation.

Third, and this assumptions is more of a technicality, we assume the interest payments can be reinvested at the YTM or the solution to the bond equation. It is a technicality because who really cares what the investor does with his or her interest payment once it is received. However, if the bond pays $50 in interest that covers a six-month period on a principal of $1000 (the face value), that is a YTM of five percent for six-months which is 10.25 percent per year. That conversion assumes a reinvestment and that is the reason for our third assumption.

Corporate bonds are not the only debt instrument. Other types of bonds within the US with similar cash flows are US Treasury bonds, US government agency bonds (such as those issued by the Tennessee Valley Authority) and municipal bonds (those issued by state and local governments). Municipal bonds are unique in that interest income from them is generally exempted from federal income tax for individuals. Also, municipal bonds are either general obligation bonds or revenue bonds. For general obligation bonds, the interest and principal payments are derived from the taxing authority of the issuing government while such payments from revenue bonds come from the proceeds of economic activity financed by such bonds (such as sewer systems, toll bridges, coliseums, etc.). Likewise, US Treasury bonds are served by the US tax payers while US agency bonds, at least in theory, are served by the government enterprise financed by the associated bonds. We say, at least in theory, because it is assumed by almost all investors that the US government would not allow a US agency bond to fail even if the US tax payer had to pick up the payments in case the agency could not.

Another category of debt instruments are those classified as discount instruments. This term referees to debt instruments that do not pay interest payments explicitly, but pays interest indirectly. This occurs when the investor pays less than what he or she will receive when the instrument matures and pays its face value. For example, if one were to purchase a $10,000 (face value) US Treasury T-bill for $9,500 today, the difference between the face value of $10,000 and the purchase price is the implied interest payment over the life of the instrument. Common examples of discount instruments are the before mentioned T-bills issued by the US Treasury, zero coupon bonds (of all types) and commercial paper (IOUs often issued by corporations).

Bond ratings and yield curves: Bond ratings can be informally defined as "an expert's opinion as to the probability the debt instrument will default sometime during its life." This definition requires further amplification. The four major bond rating organizations within the US are: Moody's, Standard and Poor's, Duff and Phelps and Fitch. These organizations do their

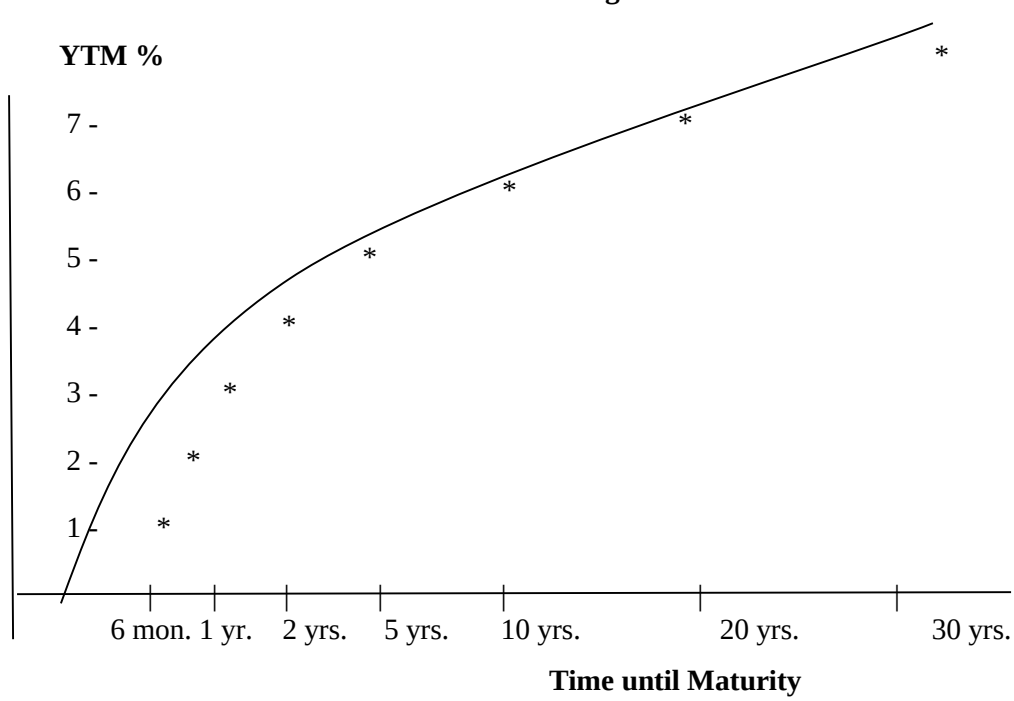
investigations and issue independent ratings. Normally, they come up with the same or nearly the same ratings (+/-), but occasionally, two rating organizations will issue distinctly different ratings. Sample S&P and Moody's bond ratings are in the Appendix.

It is important to note that bond ratings are used to assess the default risk of a particular bond contract or other debt instrument – not the issuing organization. So, it is perhaps inappropriate to say a particular company has a AAA rating – rather some of its debt instruments have a AAA rating. Obviously, in order to award a bond rating, the financial and business strengths and weaknesses of the issuing organization must be evaluated, but the details of the particular contract in question must also be fully considered. Furthermore, the bond rating process is extended to include, not only corporate bonds, but also municipal bonds as well as commercial paper. The debt instruments carrying the top four ratings (AAA, AA, A and BBB) are considered investment grade securities. Debt instruments with lower than the top four ratings are considered either speculative grade (BB and B) or in some degree of default (CCC through D), depending on the specific circumstances at the time.

Yield curves are informally defined as 'schedules that relate debt instrument yields to maturity (YTM) to their maturities.' This definition sounds a bit convoluted, but the idea is that the YTM of a debt instrument is a function of its maturity. However, an example, with some discussion, may be a better way to understand the concept and the related definition.

Figure 1, shown below, depicts a hypothetical yield curve. A collection of similar debt instruments, all with the same default risk (i.e. bond rating) are selected and used to draw the curve. Using the bond equation and current market prices, each provides a current YTM. These current YTMs are plotted against respective times until maturity. Consequently, all yield curves are "snap shots in time." Therefore, when viewing a particular yield curve, it is important to note the date (and maybe the time) as yield curves can and often do change shape (i.e. shift up or down or become more or less steep).

Figure 1.

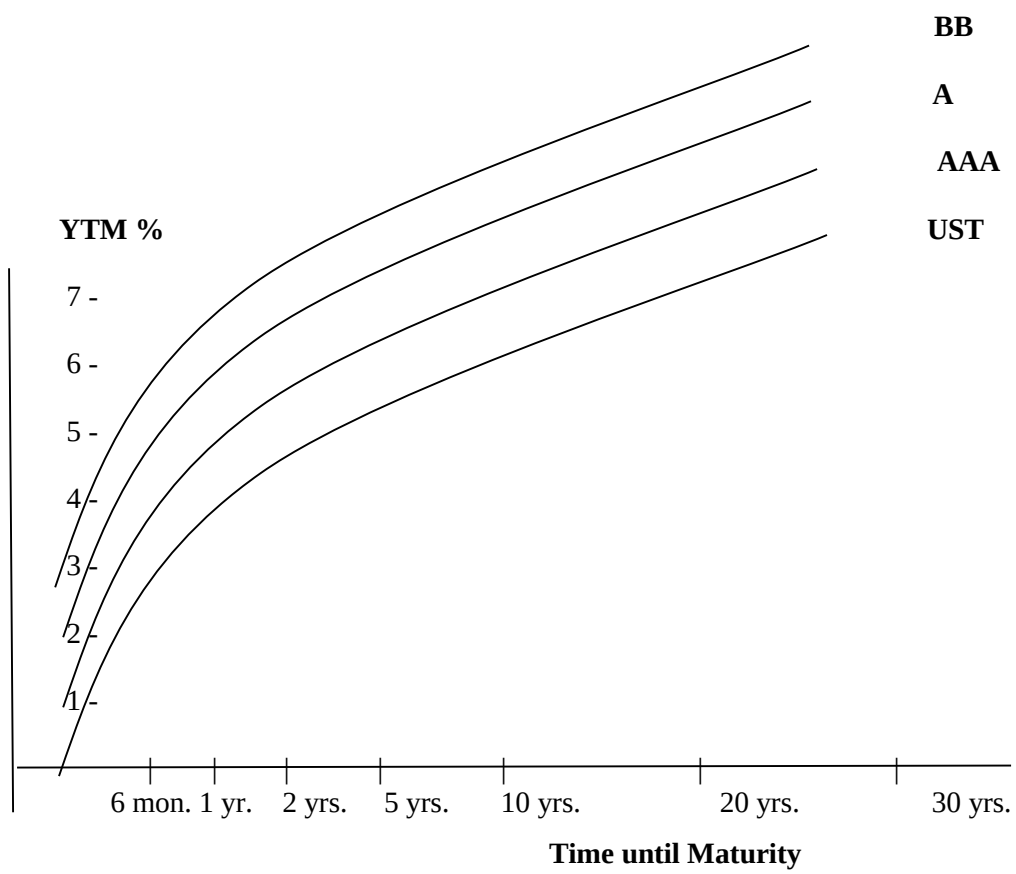


Yield curves are normally upward sloping, but they do not have to be. At different times in history, some yield curves have actually been downward sloping or 'hump-backed.' Those with these shapes are generally referred to as inverted yield curves. There are several competing theories that attempt to explain the shape of yield curves.

The Expectations Theory suggests yield curve slopes reflect investor expectations as to the direction (up or down) of future yields. If investors believe yields will be higher in the future, to justify investing longer-term, higher rates are demanded so as not to miss out on better future returns during the latter part of the investment horizon. However, when investors believe future rates will be lower than current rates, one would expect to see downward sloping yield curves. It is thought investors will settle for lower long-term rates that are actually higher than what they expect they could get if they wait. Unfortunately, the credibility of the Expectations Theory comes into question because of the preponderance of upward sloping yield curves. Do investors always believe rates will be higher in the future?

The Liquidity Preference Theory states investors just do not like to be locked-in for a longer period of time. Therefore, they are willing to pay more for shorter-maturing debt instruments, thereby settling for lower YTMs (via the bond equation) which gives the option to either take their money out of the market or to reinvest with the better information that comes with the passage of time. This theory seems to better explain the preponderance of upward sloping yield curves than the Expectations Theory.

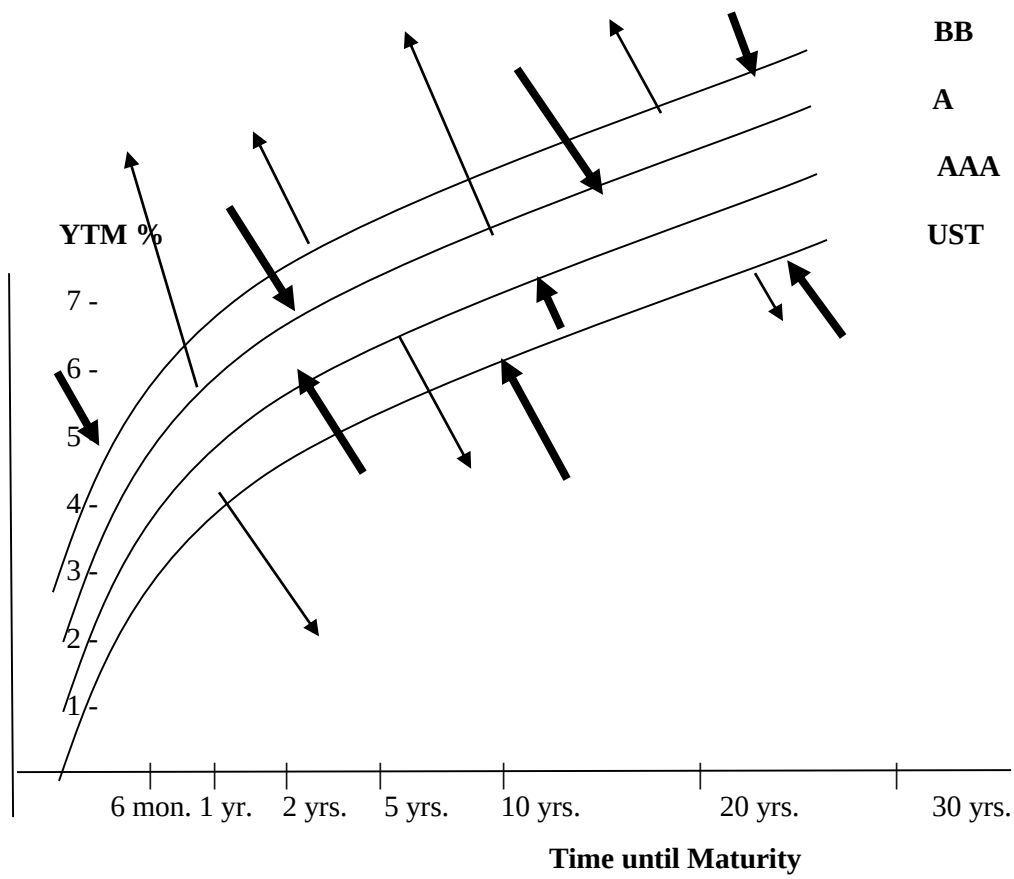
Figure 2.



An alternative third theory, called the Market Segmentation Theory, proposes that yield curves that cover several months to 30 or more years actually represent several separate and well-defined markets instead of just one market for same default risk debt securities of widely varying maturities. For instance, some investors may only trade short-term money market instruments and they never venture into intermediate (two years to ten years) or long-term debt (ten years to 30 years) instrument investing. Accordingly, the same can be said for intermediate and long-term debt markets. Each yield curve 'segment' represents specific factors unique to that investment vista.

When several yield curves, each with a different default risk, are drawn on the same graph, they may look like Figure 2 below. As shown, higher default risk yield curves are above lower default risk curves because, all else equal, higher risk assets provide higher expected returns. Furthermore, no yield curves intersect because, if they did, there would be some form of asset mispricing. (Two assets with different risk levels cannot provide the same yield.)

Figure 3.



When investors are nervous and debt markets are unsettled, yield curves tend to move further apart. This phenomenon can be explained by investors selling more risk debt assets in favor of buying safer debt assets. Selling pressure on one class of debt instruments puts downward pressure on their prices and consequently, higher YTMs (again, via the bond equation). Likewise, buying safer debt instruments bids up their prices and thereby lowers their YTMs. (See

thin arrows in Figure 3 below.) When investors are confident and debt markets are bullish, yield curves tend to move closer together. This phenomenon can be explained by investors selling safer, lower YTM assets in favor of buying more risky, higher YTM debt assets. Again, buying risky debt instruments bids up their prices and thereby lowers their YTMs and visa-versa. (See thick arrows in Figure 3 above.)

If yield curves become too steep or too flat or exhibit other odd characteristics, the may be yield curve arbitrage opportunities for fast acting and sophisticated investors. Such actual and/or potential price correcting activities tend to keep yield curves relatively smooth and not too steep or flat.

Duration and Immunization: Duration can be loosely described as a measure of how sensitive a debt instrument's market price is to changes in interest rates. In actuality, there are many "durations." Specific duration differences involve assumptions and other technical issues that are beyond the scope of this paper. For example, our focus will be on the Macaulay duration which implies a flat yield curve. However, the Fisher-Weil duration avoids this rather limiting assumption.

To begin the development of the Macaulay duration, we start with an equation that defines the present value of the cash flows coming from the debt instrument (i.e. the price of the debt instrument). This is simply the sum of the discounted cash flows where the discount rate is the same, regardless of the time horizon for each cash flow as shown below as equation 2.

$$\text{Price} = CF_1/(1 + i) + CF_2/(1 + i)^2 + CF_3/(1 + i)^3 \ldots = \sum CF_n/(1 + i)^n \qquad (2)$$

Equation 2 is merely a more general form of the "bond equation" or equation 1 of this paper. By initially taking the first derivative of price as a function of one plus the discount rate (1 + i) using the Chain Rule, by second multiplying the resulting equation by a rather complex expression of one (to maintain the equality) and by third doing some Algebra, we can derive an equation that features what is defined as the Macaulay duration (D). D is defined as follows:

$$D = \frac{\sum CF_n(n)/(1 + i)^n}{\sum CF_n/(1 + i)^n} \qquad (3)$$

Notice, the only difference between the numerator and the denominator is the cash flows in the numerator are weighted by the number of periods (years) until payment is due. Also notice the denominator is actually the price (as we have defined it earlier). Therefore, the calculation of the Macaulay duration is often not as complex and tedious as one may first imagine.

At this point, it is important to consider the Macaulay duration of a discount debt instrument. Because there are no interest payments before maturity, equation 3 is simply the current price of instrument times the years or periods until maturity (the numerator) all divided by the current price of the debt instrument (the denominator). The current price cancels out and the result is simply the number of years or periods until maturity. Therefore, one can always use the maturity as the Macaulay duration for all discount debt instruments.

Also, and without going into the derivation mathematics, the Macaulay duration for a cash flow considered to be a constant growth perpetuity (such as those assumed in most dividend discount models such as Gordon's Dividend Growth model) is calculated as equation 4 below. Similarly, the Macaulay duration for a portfolio (D_p) can be calculated as equation 5 below where W_j represents the various weights of each portfolio component by market value and D_j represents each portfolio component's Macaulay duration.

$$D = -\frac{1 + i}{i - g} \quad (4) \qquad\qquad D_p = \sum W_j D_j \quad (5)$$

By substituting D for the right side of equation 3 into the first derivative (as previously described) of equation 2, we can show that D is equal to the following expression:

$$D = -\frac{\Delta(\text{Price})/\text{Price}}{d(1 + i)/(1 + i)} \text{ if } \Delta \text{ replaces “d,” we get } -\frac{d(\text{Price})/\text{Price}}{\Delta(1 + i)/(1 + i)} \quad (6)$$

The Δ denotes a finite change as opposed to an infinitesimal change. Furthermore, the negative sign is critical because of the inverse relationship between price changes and interest rate changes. The right side of equation 6 is really an elasticity in the sense that it is the percent change of the dependent variable (price) divided by the percentage change in the independent variable (1 + i). But, one does not change as it is constant, so the denominator can be further simplified as Δi/(1 + i). This leads us to equation 7 which in turn (with some simple Algebra leads us to equation 8 below.

$$D = -\frac{\Delta(\text{Price})/\text{Price}}{\Delta i/(1 + i)} \quad (7)$$

$$\Longrightarrow \quad \Delta \text{ Price} = - D \times (1/(1 + i)) \times \text{Price} \times \Delta i \quad (8)$$

If D/(1 + i) is defined as modified duration (D*), then equation 8 becomes equation 9 below.

$$\Delta \text{ Price} = - D^* \times \text{Price} \times \Delta i \quad (9)$$

Equation 8 becomes a valuable tool for quickly and simply estimating the price change (Δ Price) for a debt security given a change in the yield (Δi) for said security. It is an estimate, because the actual change will be exponential in nature and not linear as depicted in equation 9. However, for relatively small changes in i, the estimated change in price is very close to the actual change in price.

When considering total risk associated with a debt instrument, the simple diagram (Figure 4) below may prove helpful. First, total risk is composed of two components – default risk and interest rate risk. Bond ratings (previously defined and discussed) are one way of measuring default risk. Interest rate risk can be further divided into two subcomponents – price risk and reinvestment risk.

Figure 4.

→Default Risk

Risk →

→ Interest Rate Risk → → Price Risk

→ Reinvestment Risk

Price risk is the risk associated with the instrument's price decline (or increase) as a result of an interest rate increase (or decrease). (Please see equation 1 and the related discussion.) Reinvestment risk is the risk associated with future reinvestment opportunities, given an interest rate increase (or decrease). The idea here is, if interest rates increase, the investor can benefit from the higher rate when he or she reinvests interest payments which are forthcoming future disbursements - or just the opposite – the investor could suffer if he or she reinvests the forthcoming future interest payments at the now lower rate.

The good news is these two subcomponents of interest rate risk tend to off-set each other as interest rate changes move the investor in opposite directions (i.e., A rate increase reduces the debt instrument's price, but affords the investor a better reinvestment opportunity when he or she receives future interest payments and visa-versa.) The bad news is these two effects do not exactly off-set each other because of the non-linear nature of the bond equation. If the bond equation were linear, the estimated price change of equation 8 would be the true price change, given the change in interest rate (Δi).

"Immunization" is a method for managing interest rate risk. The only way to completely eliminate interest rate risk is to choose a zero coupon instrument with a maturity equal to the desired holding period. This we refer to as perfect immunization. (Why this is perfect and the following statement is said to only minimize interest rate risk will come later.) With coupon payments or specific multiple interest payments, all we can do is attempt to minimize interest rate risk. Immunization, in this case, is creating a portfolio with duration equal to or as nearly equal to the desired holding period as possible. The holding period is a given or must be determined by the analyst.

Duration decreases as coupon rates increase, all else remaining the same. Duration increases as maturity increases for all zero coupon instruments, all coupon instruments sold at par and at a premium. This is also true for most coupon instruments sold at a discount, but NOT all sold at a discount. These exceptions are typically for very long maturities. The higher the yield to maturity, the shorter is the duration of the instrument, all else remaining unchanged.

Again, equation 9. $\Delta \text{ Price} = -D^* \times \text{Price} \times \Delta i$

<u>*where*</u>*: Price is the current price of the instrument*
*Δ Price is the **change** in the instrument's price*
Given i as the current interest rate and,
*Δi is the one-time **change** in the interest rate*
D^* is modified duration of the instrument [$D^* = D/(1 + i)$]

The equation above is a very good "approximation" that is appropriate with low relative values for i and small changes in i. The accuracy can be improved with what are known as "convexity" corrections. These corrections are generally positive.

Finally, given a decrease in interest rates, the estimated new price of the instrument is most likely to be less than the actual price after the interest rate reduction. So, the calculation underestimates the price gain. Conversely, if there is an interest rate increase, the calculation overestimates the price reduction due to the interest rate increase. This means price reduction estimates are going to be slightly greater than actual and price increase estimates are going to be

slightly less than actual price increases. Or, said differently, the estimates are conservative for the instrument owner in both cases.

EXAMPLE DURATION AND IMMUNIZATION PROBLEMS

1. Consider a $100,000 *face value* discount instrument that matures in four (4) years. The current interest rate for such instruments is 7 percent. However, this rate is expected to ***fall*** by 35 basis points. Please calculate ***the estimated price change*** resulting from such a rate change using duration. Please show all of your work.

Current Price = $100,000*(1/(1 + .07)^4) = $100,000(.762895) = $76,289.50*

Δ Price = -D x Price x Δi = -[(4^a)/(1 + .07)] x $76,289.50 x (-.0035)* (9)

Δ ***Price = <u>+$998.18</u>***

^{a} *Since this is a discount instrument, notice the Macaulay duration is equal to the instrument's maturity (4 years).*

What is the real price change?
New real price would be: $100,000/(1 + .0665)^4 Or $77,295.92
Therefore, the real Δ Price = $77,295.92 – $76,289.50 = +$1,006.42

The difference between the two answers (+$8.24) is the ***convexity*** *correction.*

2. a) What type of risk is addressed by immunizing a portfolio? Please be specific. *<u>Interest rate risk</u>*

   b) What two time-related "items" are considered and important when portfolios are immunized? *<u>Holding period and Macaulay duration</u>.*

   c) Considering your answers to part b), what is their 'relationship' with immunization? *<u>They must be equal, i.e. Macaulay duration must be made equal to the desired holding period</u>.*

3. If a share of ABC stock is currently selling for $30.00 per share and it has an expected sustainable growth rate of 2 percent per year, what is the estimated price change if the required rate of return is 17 percent and interest rates:

a) ***increase*** by 300 basis points?

D = (1 + .17)/(.17 - .02) = 1.17/.15 = 7.8 years (4)
Δ Price = -D x Price x Δi = - [7.8/(1 + .17)] x $30.00 x (+.030)* (9)
Δ ***Price = <u>-$6.00</u>***

The actual new ABC stock price could be estimated if we estimate the next dividend using the Gordon Dividend Growth model.

Price = Dividend$_1$/(i – g) ➔ \$30.00 = Dividend$_1$/(.17 - .02) Or Dividend$_1$= \$4.50 Then, the new price can be estimated using the Gordon Dividend Growth model (again). Price = \$4.50/(.20 - .02) = \$25.00

Therefore, the convexity correction is said to be \$25.00 - \$24.00 = +\$1.00

b) ***decrease*** by 150 basis points?

D = (1 + .17)/(.17 - .02) = 1.17/.15 = 7.8 years (4)
Δ Price = -D x Price x Δi = - [7.8/(1 + .17)] x \$30.00 x (-.015)* (9)
Δ Price = <u>+\$3.00</u>

The actual new ABC stock price could be estimated if we estimate the next dividend using the Gordon Dividend Growth model.

Price = Dividend$_1$/(i – g) ➔ \$30.00 = Dividend$_1$/(.17 - .02) Or Dividend$_1$= \$4.50 Then, the new price can be estimated using the Gordon Dividend Growth model (again). Price = \$4.50/(.155 - .02) = \$33.33

Therefore, the convexity correction is said to be \$33.33 - \$33.00 = +\$0.33

4. Assume there are two bonds, of equal default risk, available for investment with respect to a \$1 million dollar, initial value, bond portfolio. Bond A (\$1000 face value) has three years until maturity and pays a yearly interest coupon of \$100 per year. Bond B (\$1000 face value) has one year until maturity and pays a yearly interest coupon of \$65 per year. Currently, the yield until maturity for bonds of this risk class is 9 percent per year.

a) Please "construct" the appropriate portfolio such that it is "immunized" against interest rate risk.

$W_A + W_B = 1$ *and* $D_p = \sum W_j D_j = W_A D_A + W_B D_B$ (5)

$$D_A = \frac{\sum (CF_n * n)/(1+i)^n}{\sum CF_n/(1+i)^n} \rightarrow$$

$$\frac{(\$100*1yr.)/(1+.09) + (\$100*2yrs.)/(1+.09)^2 + (\$1100*3yrs.)/(1+.09)^3}{(\$100)/(1+.09) + (\$100)/(1+.09)^2 + (\$1100)/(1+.09)^3} \quad (3)$$

D_A = (\$91.74yrs. + \$168.34yrs. + \$2548.21yrs.)/(\$91.74 + \$84.17 + \$849.40)

➔ \$2808.29yrs./\$1025.31 = **2.739 yrs.**

$$D_B = \frac{(\$1065*1yr.)/(1+.09)}{(\$1065)/(1+.09)} = \frac{\$977.06yrs.}{\$977.06} = \mathbf{1yr.} \quad (3)$$

$D_p = \sum W_j D_j$ ➔ ***2yrs. = 2.739yrs.*W_A + 1yr.*W_B*** (5)

But: $W_B = 1 - W_A$ Therefore, $\mathbf{2yrs. = 2.739yrs.*W_A + 1yr.*(1 - W_A)}$

Solving this equation yields: $\mathbf{W_A = 57.5\ \%,\ then\ W_B = 42.5\%}$

But, how many of each bond must we buy? What is the price of each bond?

The price of bond A is $1025.31 and price of bond B is $977.06, the denominators of equation 3.

Therefore, we should spend $575,000 on bond A and $425,000 on bond B. Consequently, we should buy $575,000/$1025.31 ~ ***561 A bonds*** *and $425,000/$977.06 ~* ***435 B bonds****.*

b) Please list and be prepared to discuss several limitations with respect to your answer to part a).

Only good for a "one time, quick" change in interest rates. After an interest rate change, portfolio must be rebalanced as it is no longer "immunized." Transaction costs for rebalancing can be significant. Immunization protection fades with time, even if there is no interest rate change because time is linear and the Macaulay duration is nonlinear.

c) Please calculate the value of the portfolio [your answer to part a)] at the end of two years with: i) no change in yields, ii) a 200 basis point ***increase*** in yields, iii) a 200 basis point ***decrease*** in yields.

When i = 9% *Price of bond A = $1100/1.09 = $1,009.17 in 2 years.*

i) Bond B – year 1	→	*435*($1,065)*(1 + .09)*	=	*$504,969.75*
Interest from bond A	→	*561*($100)*(1 + .09)*	=	*$ 61,149.00*
Interest from bond A in 2 years	→	*561*($100)*	=	*$ 56,100.00*
Sale of bond A in 2 years	→	*561*($1,009.17)*	=	*$566,144.37*
				$1,188,365.50

When i = 11% *Price of bond A = $1100/1.11 = $990.99 in 2 years.*

ii) Bond B – year 1	→	*435*($1,065)*(1 + .11)*	=	*$514,235.25*
Interest from bond A	→	*561*($100)*(1 + .11)*	=	*$ 62,271.00*
Interest from bond A in 2 years	→	*561*($100)*	=	*$ 56,100.00*
Sale of bond A in 2 years	→	*561*($990.99)*	=	*$555,945.94*
				$1,188,552.10

When i = 7% *Price of bond A = $1100/1.07 = $1,028.04 in 2 years.*

iii) Bond B – year 1	→	*435*($1,065)*(1 + .07)*	=	*$495,704.25*
Interest from bond A	→	*561*($100)*(1 + .07)*	=	*$ 60,027.00*
Interest from bond A in 2 years	→	*561*($100)*	=	*$ 56,100.00*
Sale of bond A in 2 years	→	*561*($1,028.04)*	=	*$576,728.97*
				$1,188,560.20

All three sums are very close to the same value which indicates the investor has suffered (gained) very little from a one-time change in interest rates.

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APPENDIX

QUALITY	S&P	Moody's	Description
High Grade	AAA	Aaa	Bonds judged to be of the best quality. They carry the smallest degree of investment risk. Interest payments are protected by a large, stable margin. Principal is secure.
	AA	Aa	Bonds that are judged to be of high quality by all standards. They are rated lower than the best bonds because margins of protection may not be as large. AAA and AA bonds are referred to as "High Grade."
Medium Grade	A	A	Upper-medium grade obligations. Factors giving security to principal and interest are considered adequate.
Bottom rung of Investment Grade Bonds	BBB	Baa	Bonds that are considered as medium-grade obligations -- they are neither highly protected nor poorly secured.
Speculative Grade	BB	Ba	Bonds that have speculative elements. Protection of principal and interest may be moderate.
	B	B	Bonds that lack the characteristics of a desirable investment. There may be small assurance of principal and interest payments over any long period.
Default	CCC	Caa	Bonds of poor standing. These issues may be in default or there may be elements of danger present with respect to principal and interest.
	CC	Ca	Obligations speculative to a high degree. These issues are often in default.
		C	Lowest rated class in Moody's list.
	C		Rating given to income bonds on which interest is not being paid.
	D		Issues in arrears in interest and/or principal payments.

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AN INVESTIGATION OF THE FACTORS WHICH INFLUENCE REPURCHASE INTENTIONS TOWARDS LUXURY BRANDS

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ABSTRACT

This paper examined the relationship between demographic, personal value perceptions; social influence and functional value perception factors with repurchase intention for luxury brand products in the luxury market. Factors which influence the purchase intention in the luxury market were identified. To conduct this study, the researchers examined the 4 main factors likely influencing the repurchase intention: six facets of value perception including hedonism, social status value, conspicuous value, price quality perception, uniqueness value as well as four demographic variables including gender and age level. This study found a positive relationship between social influence and functional value perception towards repurchase intention for luxury brand products.

INTRODUCTION

The personal luxury market is very important in terms of its monetary sales volume (more than US$ 278 billion annually in 2014 (Economist 2014)). The global luxury industry has seen steady growth over several decades and it is commonly believed to be one of the most appealing and profitable industries in the world.

The abundance of luxury brands is undoubtedly worldwide, especially with the development of new luxury boutiques everywhere in every capital in developed markets and emerging markets too. In the past, luxury brands were often related to very select elite groups. However, luxury brands no longer belong to elite groups nowadays as they appeal themselves with a wider customer market, thanks to modernization and globalization. For all firms, the means of generating consistent profits comes by having customers who not only initially repurchase, but also consistently re-repurchase. Repurchasing customers are fundamental to the end-goal of every business. As a result, the measurement of customer satisfaction and repurchase intention has become critical to managers and researchers. Both measures have traditionally been used to understand and predict how a customer will behave. Satisfaction, nevertheless, is a traditional measurement whereas repurchase intention focuses on future consumption behavior. The purpose of this research is to study the relationship between demographic, personal value perceptions; social influence and functional value perception factors with repurchase intention for luxury brands in the luxury market.

RESEARCH OBJECTIVES

This research aims to identify the factors influencing the purchase intention in the luxury market. The researchers examined the relationship between demographic, personal value perceptions, social influence, functional value perception and purchase intention in the luxury market.

In conducting this study, the researchers examined four main factors likely influence the repurchase intention: six facets of value perception including hedonism, social status value, conspicuous value, price quality perception, uniqueness value as well as four demographic variables including gender and age level.

- To evaluate the relationship between personal value perception in terms of hedonism and repurchase intention.
- To evaluate the relationship between personal value perception in terms of materialism and repurchase intention.
- To evaluate the relationship between social influence perceptions in terms of social status value and repurchase intention.
- To evaluate the relationship between social influence perceptions in terms of conspicuous value and repurchase intention.
- To evaluate the relationship between functional value perception in terms of price quality perception and repurchase intention.
- To evaluate the relationship between functional value perception in terms of uniqueness value and repurchase intention.
- To test a difference based on gender and repurchase intention.
- To test a difference based on age and repurchase intention.

LITERATURE REVIEW

One of the main thoughts in the market of luxury products is the importance of consumption directed by satisfying one-self (Tsai, 2005), which is linked to the expressive dimension of impression management. We can observe that an increasing number of consumers are repurchasing luxury products to derive self-directed hedonic experience and symbolic benefits (Wong and Ahuvia, 1998).

Some researchers such as Tsai (2005) and Wiedmann (2009) argue that consumption directed toward the self has not been studied enough yet and requires more attention. Personal motive oriented consumers are concerned with being able to identify themselves with the product, earn an enjoyable experience from the product and link their individual tastes to the brand’s image (Wong and Ahuvia, 1998).

Social status is the level of honor given to one’s position in a society (Maiese, 2004). Owning a luxury fashion product can show owner’s social status. It also gives the image of success.

When luxury brands and product can link prestigious values, social referencing and the construction of one’s self, people want to get and show their luxury goods in public to indicate a group membership and use it as a symbolic sign. Demographic can be considered as the study of a population based on factors such as age, race, gender, economic status, level of education, income level and employment, among others. Also governments, corporations and non-government organizations to learn more about a population’s characteristics for many purposes, including policy development and economic market research, use demographics.

Demographic trends are also important, as the size of different demographic groups will change over time as a result of economic, cultural and political circumstances. For companies, segmenting a population into demographics allows them to assess the size of a potential market and also to see whether its products and services are reaching that company's most important consumers.

Therefore this study hypothesized 7 statements in investigating their relationship as follows:

H1o: There is no relationship between personal value perception in terms of hedonism and luxury repurchase intentions
H1a: There is a relationship between personal value perception in terms of hedonism and luxury repurchase intentions?

H2o: There is no relationship between social influence perceptions in term of social status value and luxury repurchase intention.
H2a: There is a relationship between social influence perceptions in term of social status value and luxury repurchase intention.

H3o: There is no relationship between social influence perceptions in term of conspicuous value and luxury repurchase intention
H3a: There is a relationship between social influence perceptions in term of conspicuous value and luxury repurchase intention.

H4o: There is no relationship between functional value perception in term of price quality perception and luxury repurchase intention.
H4a: There is a relationship between functional value perception in term of price quality perception and luxury repurchase intention.

H5o: There is no relationship between functional value perception in term of uniqueness value and luxury repurchase intention
H5a: There is a relationship between functional value perception in term of uniqueness value and luxury repurchase intention.

H6o: There is no difference in luxury repurchase intention based on gender.
H6a: There is a difference in luxury repurchase intention based on gender.

H7o: There is no difference in luxury repurchase intention when segmented by age levels.
H7a: There is a difference in luxury repurchase intention when segmented by age levels.

RESEARCH METHODOLOGY

The researchers chose to carry a descriptive research. The descriptive research is defined by Zikmund (2003) as "designed to describe characteristics of a population or a phenomenon" Who, what, when, where and how questions. But not to the why question, are answered by a descriptive method. The researchers selected as population for the study clients of the luxury brands in the famous mall Siam Paragon in Bangkok, Thailand.

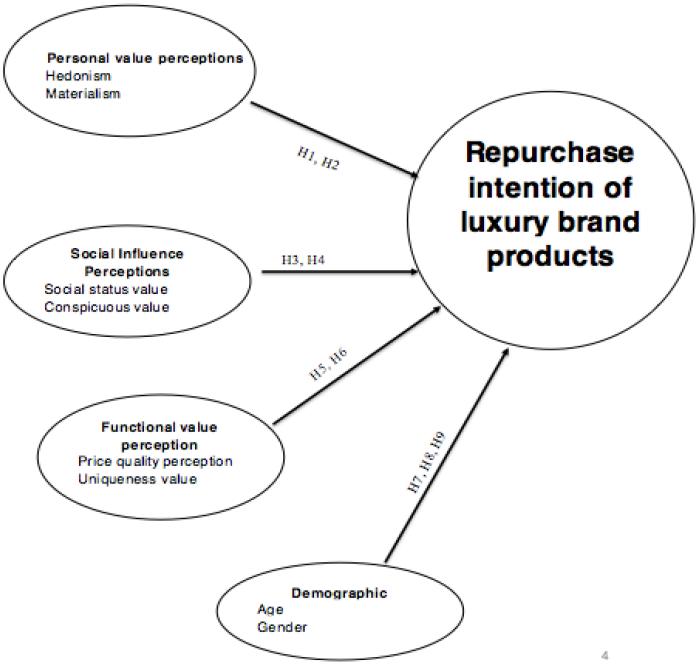
In order to ensure the accuracy, reliability and consistency of the questionnaire set of each variable. Cronbach's Alpha test was conducted. It was found through the calculation of reliability test in SPSS that all questionnaire sets had alpha result over 0.6. This indicates that these questions could be used to measure the relationships between variables and is valid as a research instrument.

DATA COLLECTION

Firstly, The researchers divided the questionnaire into 6 parts: part 1 is about screening, part 2 is about personal value perception, part 3 is about Social influence perception, part 4 is

about functional value perception, part 5 is about luxury repurchase intention and part 6 is about questions demographic information. In order to analyse the questionnaire we will use the Likert scale for the question.

Figure 1: Overview of Hypotheses



FINDINGS

To interpret the data gathered the researchers used the Statistical Package for Social Science (SPSS) to code data. The purpose is to analyse correlations between data. In this study, the researchers used a correlation coefficient (R) to test the hypotheses and more specifically Pearson correlation. The findings of the demographic data shows that from overall respondents, the majority of the respondents are female, which is equal to 67% or 201 out of 300 respondents. For the age group, the majority of the respondents are aged between 40-50 years old, 30% of the survey. The result of the Pearson correlation test shows that there is a statistically significant relationship between functional value perception in term of uniqueness value and luxury repurchase intention. These two variables are positively and strongly related with a view to the correlation coefficient, which is equal to 0.603 at the level significance of 0.000.

The result of the Pearson correlation test indicated that there is a statistically significant relationship between price quality perception and luxury repurchase intention. These two variables are positively and moderately related with a view to the correlation coefficient, which is equal to 0.530 at the level significance of 0.000.

Table 1: Analysis of personal value perceptions

	N	Mean	Std. Deviation
I place high emphasis on my appearance	300	3.23	.582
My appearance is very important to me	300	3.63	.511
It is important that I look good	300	3.00	.649
I would feel embarrassed if I was around people and did not look my best	300	2.83	.712
I will make effort to look good	300	3.38	.798

From Table 1 the researchers found that the highest average mean is equal to 3.63, which is "My appearance is very important to me". The lowest average mean is equal to 2.83, which is "I would feel embarrassed if I was around people and did not look my best". The highest standard deviation is equal to .798, which is "I will make effort to look good". The lowest standard deviation is equal to 0.511, which is "My appearance is very important to me".

Table 2: Analysis of social influence

	N	Mean	Std. Dev.
Before purchasing a luxury branded products, it is important to know what brands will make good impression on others	300	4.10	.915
My friends and I tend to buy the same luxury brands	300	3.99	.922
Before purchasing a luxury branded products, it is important to know what kinds of people buy certain brands	300	4.04	.823
Before purchasing a luxury branded products, it is important to know what others think of people who use certain brands	300	4.21	.745
I tend to pay attention to what other luxury brands others are buying	300	3.90	1.015
I like to know what luxury branded products make good impressions on others	300	4.25	.624
	300	4.07	.880

From Table 2 the researchers found that the highest average mean is equal to 4.25, which is "I like to know what luxury branded products make good impressions on others". The lowest average mean is equal to 3.90, which is "I tend to pay attention to what other luxury brands others are buying". The highest standard deviation is equal to 1.015, which is "I tend to pay attention to what other luxury brands others are buying". The lowest standard deviation is equal to 0.624, which is "I like to know what luxury branded products make good impressions on others".

Table 3: Analysis of functional value perceptions

	N	Mean	Std. Deviation
Luxury brand X's product is handmade (crafted)	300	3.56	1.205
Luxury brand X's product has the best quality	300	3.27	1.109
Luxury brand X's product is sophisticated	300	3.18	1.197
Luxury brand X's product is superior	300	2.89	1.211

From Table 3, the researchers found that the highest average mean is equal to 3.56, which is "Luxury brand X's product is handmade (crafted)". The lowest average mean is equal to 2.89, which is "Luxury brand X's product is superior". The highest standard deviation is equal to 1.211, which is "Luxury brand X's product is superior". The lowest standard deviation is equal to 1.109, which is "Luxury brand X's product has the best quality".

Table 4: Analysis of luxury repurchase intention

	N	Mean	Std. Deviation
I anticipate to repurchasing a luxury product in the near future	300	4.08	.975
It is likely that I will repurchase a luxury product in the near future	300	4.06	.933
I expect to repurchase a luxury product in the near future	300	4.08	.948

From Table 4, the researchers found that the highest average mean is equal to 4.08, which is "I anticipate to repurchasing a luxury product in the near future" and "I expect to repurchase a luxury product in the near future". The lowest average mean is equal to 4.06, which is "It is likely that I will repurchase a luxury product in the near future". The highest standard deviation is equal to .975, which is "I anticipate to repurchasing a luxury product in the near future". The lowest standard deviation is equal to .933, which is "It is likely that I will repurchase a luxury product in the near future".

SUMMARY AND CONCLUSIONS

Cronbach's Alpha test was conducted in order to ensure the accuracy, reliability and consistency of the questionnaire set of each variable. It was found through the calculation of reliability test in SPSS that all questionnaire sets had alpha result over 0.6. This study puts forward the following results: the most important variable is the importance of functional value perception in the decision to purchase luxury brand products. With the strongest significance level through the Pearson correlation coefficient, this variable has the strongest relationship in the repurchasing intention of luxury brand products. This study also shows that according to Cronbach's Alpha, social value perception (.913) is extremely significant to luxury brand repurchase intention. This means that people who intend to purchase luxury brand products all feel the importance of social value perception equally. In the end, this study shows that all the variables chosen are in relationship with the repurchasing intention of luxury brand products, because nearly all respondents want to repurchase luxury brand products in the near future. For the demographic factors, different gender and age did not show significant difference concerning repurchasing intention of luxury brand products.

This exploratory research is beneficial to luxury fashion brand marketers in the part of getting to know their target consumers. The information gained from this research is truly the characteristic of upper class in Bangkok, Thailand. There are many factors which impact on the luxury fashion products purchasing behavior. Luxury brand marketers should take note and focus on these factors in order to be successful in the very select niche market, which is the luxury market. Based on the demographic information, there are two indicators, which are not significant towards luxury products repurchasing intentions; age and gender. Gender is not suitable to apply in marketing strategies in Thailand towards luxury fashion products. In other words, this indicator has no difference or effect on luxury products repurchasing intentions. Personal Values' indicators can be utilized on customers as a hedonism value. Social influence perceptions such as social status and conspicuous value have a certain level of significance with luxury repurchase intention. However, the need for uniqueness and price quality perception also has an impact on purchasing intension. Therefore, based on the result of hypothesis number 4 and 5, the researchers suggest orientating marketing and communication towards the functional value perception of the luxury brands. They should contemplate on advertising brand symbols of high quality and distinctiveness. This marketing strategy will raise uniqueness value and price quality perception on luxury fashion product purchasers who pursue these symbols.

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AN ANALYSIS OF PERFORMANCE OF SELECTED FIRMS AFTER INITIAL PUBLIC OFFERINGS (IPOS)

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ABSTRACT

Initial Public Offerings (IPOs) are usually good opportunities for investors because they provide high returns on investments. There were 1,343 IPOs issued during 2001-2013 which provided an equally weighted average return of 13.3% and proceeds weighted average return on 12.2% on the first day. Also, there were $43.37 billion left on the table, lost capital for companies because of underpricing the IPOs, for an aggregate proceeds of $354.10 billion. These gains appear to be very appealing for investing in IPOs but all of the IPOs may not be very profitable in long-term. This paper reviews some of the best and one of the worst IPOs of 2012 and analyzes the financial performance of companies since their initial offerings. The paper begins with a discussion of IPOs and the opportunities they provide to the issuers (companies) of securities and to the investors. The best and the worst IPOs of 2012 have been selected from the Fortune magazine and their financial performance has been studied to evaluate if they continue to be good investment opportunities. The historical stock prices of the selected companies since they went public have been reviewed to study the market perspective. Their annual reports and financial statements including income statements and balance sheets have been analyzed to evaluate their financial performance and future prospects. Financial ratios have been used to assess the profitability and liquidity of the companies. Finally, an analytical view is presented about the financial performance of the companies.The analysis shows that the companies have been performing well. Splunk's stock price has increased 65%, Proto Labs stock price has more than doubled, Guidewire Software's stock price has more than tripled, Yelp's stock price has increased by about 17%, and Facebook's stock price has increased by more than two and a half times. So, all of the companies with maybe a little caution about Yelp have been perceived to be good opportunities by the market.

INTRODUCTION

Many companies start their business as sole proprietorship where an individual uses his skills, ideas, and resources to be a successful entrepreneur. In other cases, some individuals come together and form a partnership organization to benefit from their collective skills and resources. The sole proprietorship and partnership forms of business can be easily formed, are subject to a few regulations, and do not have to pay corporate taxes. However, their business life might be limited (death or retirement of a sole proprietor or a partner can lead to dissolution of business), their liability is unlimited (owners' personal assets are at risk for business liabilities), and they have limited access to resources to take advantage of growth and expansion opportunities.

Sole proprietorships and partnerships may decide to form a public corporation and raise capital from public to support growth opportunities. A public corporation also has a very long business life because their securities are publicly traded and its ownership can be easily transferred. The owners' liability is also limited to the amount of investment made by the owners. In other words, personal assets of the business owners are not at risk for business liabilities.

A public company raises funds by issuing securities to the general public and is subject to the Securities Act of 1933 which created the Securities and Exchange Commission (SEC) to safeguard investors. Therefore, a sole proprietorship or a partnership has to meet SEC requirements and file reports before going public and raising funds from general public. The first issuance of securities is called IPO. IPOs are helpful in raising large sums to capital which can be used to undertake profitable projects. They also provide opportunities for the founders of the businesses to reap the benefits of their hard work and investments.

From the market perspective, IPOs have been beneficial to investment bankers who get the opportunities to use their expertise in helping companies to issue securities. Of course, they also earn revenues from fees and commissions, and might also be rewarded for the spread between the offer price and market price. The financial returns to investors are usually high especially during the first day of trading. There were 1,343 IPOs issued during 2001-2013 which provided an equally weighted average return of 13.3% and proceeds weighted average return on 12.2% on the first day. Also, there were $43.37 billion left on the table, lost capital for companies because of underpricing the IPOs, for an aggregate proceeds of $354.10 billion.

However, investors are also concerned about returns on their investments in long-term. Issuance of IPOs is usually considered to be a positive signal to the market in that the companies raise funds to invest in profitable projects which will boost companies' earnings and cash flows in future. Therefore, many IPOs perform well during the first day but the long-term performance depends upon the companies' selection of projects and whether they generate the expected earnings and cash flows.

This paper reviews some of the best and one of the worst IPOs of 2012 and analyzes the financial performance of companies from their initial offerings to 2014, or 2015 if the financial information is available. The best IPOs of 2012 have been selected from the Fortune magazine and their financial performance has been studied to evaluate if they continue to be good investment opportunities. Fortune magazine listed best and worst IPOs of 2012 in their December 26, 2012 edition and I selected the best IPOs from the listing which included Splunk, Protolabs, Guidewire, and Yelp. I also added Facebook because it was listed as one of the worst IPOs, it has been widely discussed, and appeared to be a good company to analyze for long-term opportunities.

I used the financial information provided by NASDAQ in their website to analyze the financial performance of the companies. The market perspective of the companies has been studied by reviewing the historical stock prices of the selected companies since they went public in 2012 to 2015. I reviewed the companies' annual reports and financial statements including income statements and balance sheets to examine their liquidity and profitability. Financial ratios such as current ratio, quick ratio, cash ratio, gross margin, operating margin, pre-tax margin, profit margin, pre-tax return on equity (ROE), after tax ROE have been used for the analysis. Finally, an analytical view is presented about the financial performance of the companies.

Splunk: The company's stock traded for $35.48 on April 29, 2012 when it debuted on New York Stock Exchange (NYSE). It experienced some setbacks during the first year and the market stock price was $29.02 on December 31, 2012. But, the next year was a good one for the company and its stock price more than doubled with the closing price of $68.67 on December 31, 2013. There was some decline in the stock price during 2014 and the closing price was $58.95 on December 31, 2014. The stock price was a little lower, $58.81, on December 31, 2015.

Following are the liquidity and profitability ratios for the company since 2012:

Table 1: Splunk Financial Ratios

Period Ending:	1/31/2015	1/31/2014	1/31/2013	1/31/2012
Liquidity Ratios				
Current Ratio	288%	478%	322%	102%
Quick Ratio	288%	478%	322%	102%
Cash Ratio	245%	432%	262%	46%
Profitability Ratios				
Gross Margin	85%	88%	89%	90%
Operating Margin	-48%	-26%	-11%	-7%
Pre-Tax Margin	-48%	-26%	-18%	-9%
Profit Margin	-48%	-26%	-18%	-9%
Pre-Tax ROE	-26%	-10%	-15%	-26%
After-Tax ROE	-27%	-10%	-15%	-26%

The company has been maintaining very good liquidity since 2012. All of the liquidity ratios, current ratio, quick ratio, and cash ratio, show steady increase from 2012 to 2014 but declined in 2015. However, the company is still in a strong liquid position in 2015 to meet its financial obligations and take advantage of market opportunities.

The company has been profitable in terms of the gross margin which has been in the range of 85% to 90%. Other profitability ratios have been negative and show a further decline since 2012. This decline can be attributed to the company's investment in research and development (R&D) which has increased more than six times from 2012 to 2015 and doubled from 2014 to 2015. The company has also focused on its sales and marketing efforts and the sales expenses (including administrative expenses) have grown four times since 2012 and have increased more than 150% since 2014.

The company's revenues have been increasing steadily. The growth rate is about 372% since 2012 and about 150% since 2015. This growth in revenues is reflected in the cash flows of the company which have also been steadily increasing. The net cash flows from operations have growth more than seven times since 2012 and about 140% since 2014. Overall, the company has been performing well and seems to be poised for stronger performance with investments in R&D and marketing. The market seems to appreciate the situation and the company's stock price has increased since 2012 with some setback in the first year.

Proto Labs: The company's stock was worth $29 on 24th February, 2012 on the first day of trading. It rose to $39.42 by the end of the year and was selling at whopping $71.18 on December 31, 2013. It declined slightly next year and was traded at $67.16 on December 31, 2014. There was a further decline in the following year and the market stock price was $63.69

on December 31, 2015. Overall, the company's stock price has more than doubled since its issuance of IPO in 2012.

Following are the liquidity and profitability ratios for the company since 2011:

Table 2: Proto Labs Financial Ratios

Period Ending:	12/31/2014	12/31/2013	12/31/2012	12/31/2011
Liquidity Ratios				
Current Ratio	578%	804%	781%	282%
Quick Ratio	545%	766%	741%	244%
Cash Ratio	395%	581%	536%	84%
Profitability Ratios				
Gross Margin	61%	62%	60%	60%
Operating Margin	29%	31%	28%	27%
Pre-Tax Margin	29%	32%	28%	27%
Profit Margin	20%	22%	19%	18%
Pre-Tax ROE	23%	24%	22%	132%
After Tax ROE	16%	17%	15%	89%

The company has been highly liquid and its liquidity has been increasing since 2011. All of the liquidity ratios, current ratio, quick ratio, and cash ratio have been showing a steady increase with some decline in 2014. But, the company is in a strong liquid position.

The company has been steadily profitable and all of the profitability ratios, gross margin, operating margin, pre-tax margin, profit margin, pre-tax ROE, and after-tax ROE have been pretty stable since 2011. It is important to note that the company has not only been profitable but has also been increasingly investing in research and development (R&D). Its R&D expenses have more than tripled from 2011 to 2014. The company has also been focusing on marketing its products and its sales, general and administrative expenses have almost double from 2011 to 2014.

The company's revenues have more than doubled since 2011 and its cost of revenue has grown proportionately. Therefore, the company's profit margin has been at steady level of between 60% and 62%. The growth in the company's revenues is also reflected in its cash

flows. The net cash flows from operating activities have more than doubled from 2011 to 2014 and the net cash flows from investing activities have been increasingly negative because of the investments the company has been making. Overall, the company is showing steady growth in its liquidity and profitability but its stock price has slightly declined during the last couple of years.

Guidewire Software: The company's stock price was $17.12 at the closing of its first day of trading on January 25, 2012 and it rose to $29.72 by the end of the year on 31st December, 2012. There was a significant increase in stock price the following year and it close at $49.07 on December 31, 2013. There was a slight increase in stock price the following year and the closing price on December 31, 2014 was $50.63. The next year was another good year for the company with continued increase in stock price to $60.16.

Following are the liquidity and profitability ratios for the company since 2012:

Table 3: Guidewire Software Financial Ratios

Period Ending:	**7/31/2015**	**7/31/2014**	**7/31/2013**	**7/31/2012**
Liquidity Ratios				
Current Ratio	634%	541%	281%	282%
Quick Ratio	634%	541%	281%	282%
Cash Ratio	547%	466%	210%	225%
Profitability Ratios				
Gross Margin	61%	57%	58%	61%
Operating Margin	4%	5%	10%	12%
Pre-Tax Margin	4%	6%	10%	12%
Profit Margin	3%	4%	8%	8%
Pre-Tax ROE	2%	3%	14%	16%
After Tax ROE	1%	2%	11%	10%

The company has been highly liquid since 2012 with liquidity almost doubling from 2013 to 2014. The liquidity also increased from 2014 to 2015 albeit at a slower pace. Overall, the company is in a strong position to pay its bills, make investments, and benefit from potential opportunities.

The company's gross profit has been in the range of 57% to 61% and is showing stability. The cost of revenue has been increasing at about the same rate as the revenue. However, other profitability ratios including operating margin, pre-tax margin, profit margin, pre-tax ROE, and after tax ROE have been less appealing and have been declining since 2012. It might be because of company's investment in research and development (R&D) expenses which have been steadily increasing and the total amount of expenses have almost doubled from 2012 to 2015. The company has also been focusing on its marketing efforts and spending more on sales, general and administrative expenses which, just like R&D expenses, have almost doubled from 2012 to 2015.

The company's revenues have been increasing but the growth rate is relatively moderate. The revenue increased about 30% from 2012 to 2013, 17% from 2013 to 2014, about 8.5% from 2014 to 2015 which amounted to a total increase of about 65% from 2012 to 2015. The company's cash flows from operating activities have more than tripled from 2012 to 2015. The company's cash flows from investing activities were negative in 2012, more negative in 2013, and significantly negative in 2014 indicating the investments the company was making from 2012 to 2014 but the cash flows were positive in 2015. The market seems to be responding to the company's investment policy and, as discussed above, its stock price has been rising since 2012.

Yelp: The company's stock price was $24.58 on the first day of trading on March 2, 2012. The stock price declined to $18.85 by the end of the year on December 31, 2012. It jumped to $68.95 on December 31, 2013 and has been declining since then. It closed at $54.73 on December 31, 2014 and at $28.80 on December 31, 2015.

Following are the liquidity and profitability ratios for the company since 2011:

Table 4: Yelp Financial Ratios

Period Ending:	12/31/2014	12/31/2013	12/31/2012	12/31/2011
Liquidity Ratios				
Current Ratio	1239%	1668%	554%	249%
Quick Ratio	1239%	1668%	554%	249%
Cash Ratio	1077%	1560%	473%	171%
Profitability Ratios				
Gross Margin	94%	93%	93%	93%
Operating Margin	3%	-4%	-14%	-19%
Pre-Tax Margin	3%	-4%	-14%	-20%
Profit Margin	10%	-4%	-14%	-20%
Pre-Tax ROE	2%	-2%	-11%	-68%
After Tax ROE	6%	-2%	-12%	-68%

The company has been highly liquid since 2011 and has been increasing its liquidity. The liquidity ratios current ratio, quick ratio, and cash ratios more than doubled from 2011 to 2012 and almost tripled from 2012 to 2013. However, the ratios have declined from 2013 to 2014. Overall, the company is highly liquid and in a strong position to pay its bills, deals with any unexpected events, and benefit from opportunities.

The company's gross margin has been in the range of 93% to 94% which is quite appealing but its other profitability ratios operating margin, pre-tax margin, profit margin, pre-tax ROE, and after tax ROE are relatively low. However, the profitability ratios are showing a pattern of improvement since 2011. For example, the operating margin improved from a -19% in 2011, to -14% in 2012, to -4% in 2013, and to 3% in 2014. For another example, after tax ROE improved from -68% in 2011, to -12% in 2012, to -2% in 2013, to 6% in 2014. The company has increased its investment in research and development (R&E) about 5.5 times from 2011 to 2014. The company has also invested in marketing and its expenses have more than tripled in sales, and general and administrative areas.

The company's revenues have been steadily increasing and the growth rate was about 65% from 2011 to 2012, about 69% from 2012 to 2013, and about 62% from 2013 to 2014. Overall, the revenues have grown about 350% from 2011 to 2014. The company's cash flows from operations have increased tremendously from 2011 to 2014. The cash flows from operations declined from 2011 to 2012 but then turned from negative cash flows in 2012 to positive cash flows in 2013. The cash flows increased by more than 170% from 2013 to 2014. The company's cash flows from investing activities have been negative indicating the amounts of investments made by the company. The company made significant investments in 2014 and they were much more than the previous years. However, the market does not seem to be responding to these investments and the company's stock price has been declining.

Facebook: The company was listed as one of the worst IPOs in 2012 in the Fortune magazine. According to the magazine, "From a bungled first day of trading on the Nasdaq to disclosures that the company had provided selective information to large institutional investors, the whole thing was a mess from start to finish". However, the company's stock price has been steadily increasing after a setback in 2012. The stock price was $38 at closing on the first day of trading on May 18, 2012. It declined to $26.11 by the end of the year on December 31, 2012. Then, it rebounded next year and closed at $53.91 on December 31, 2013. The company had another good year and its stock price rose to $78.02 on December 31, 2014. The company continued its good performance and its stock price closed at $104.66 on December 31, 2014.

Following are the liquidity and profitability ratios for the company since 2011:

Table 5: Facebook Financial Ratios

Period Ending:	12/31/2014	12/31/2013	12/31/2012	12/31/2011
Liquidity Ratios				
Current Ratio	960%	1188%	1071%	512%
Quick Ratio	960%	1188%	1071%	512%
Cash Ratio	786%	1041%	915%	435%
Profitability Ratios				
Gross Margin	83%	76%	73%	77%
Operating Margin	40%	36%	11%	47%
Pre-Tax Margin	39%	35%	10%	46%
Profit Margin	23%	19%	1%	18%
Pre-Tax ROE	14%	18%	4%	35%
After Tax ROE	8%	10%	0%	14%

The company has been maintaining a strong liquid position since 2011. It increased its liquidity from 2011 to 2012 and its liquidity ratios, current ratio, quick, ratio, cash ratio, almost doubled. The company maintained about the same level next year in 2013 and the current ratios show minor changes from last year. The following year of 2014 is also about the same with some decrease in current and quick ratio and a relatively larger decrease in cash ratio. Overall,

the company is in a strong position to maintain its credit ratings and take advantage of market opportunities.

The company's gross margin has been in the range of 73% to 83% and it has been profitable since 2011. The profitability ratios operating margin, pre-tax margin, profit margin, pre-tax ROE, after tax ROE show a significant decline from 2011 to 2012. But, the company's profitability rebounded in 2013 and its profitability ratios increased in 2013 and 2014. The company has increased its investments in research and development (R&D) tremendously and its R&D expenses increased more than three and a half times from 2011 to 2012. There was a light increase in the company's R&D expenses in 2013 but they almost doubled in 2014. The company has also been streamlining its efforts in marketing and its sales and general and administrative expenses increased about two and a half times from 2011 to 2012. The expenses slightly decreased in 2013 but they increased by almost 50% in 2014.

The company's revenues have more than tripled since 2011. They increased by about 37% from 2011 to 2012 and there were significant increases of about 55% in 2013 and about 58% in 2014. The company's cash flows have also been increasing since 2011. The cash flows from operating activities increased by about 4% from 2011 to 2012 but they increased by about two and a half times from 2012 to 2013 and by about 30% from 2013 to 2014. The company's performance is reflected in its stock price which declined in 2012 but rebounded and continue to rise.

Conclusions: The above analysis of 4 of 5 the best IPOs and one of the worst IPOs of 2012 in Fortune magazine shows that the companies have been performing well. Splunk's stock price has increased 65%, Proto Labs stock price has more than doubled, Guidewire Software's stock price has more than tripled, Yelp's stock price has increased by about 17%, and Facebook's stock price has increased by more than two and a half times. So, all of the companies with maybe a little caution about Yelp have been perceived to be good opportunities by the market.

All of the firms have demonstrated good liquid positions and an increase in their liquidity since IPOs. Their profit margins have been at good levels and show signs of stability. However, other profitability ratios operating margin, pre-tax margin, profit margin, pre-tax ROE, after tax ROE are relatively low and are negative for some time period for Splunk and for Yelp. It might be a matter of concern on its surface but one should not be too much worried considering the fact that the companies have been increasingly investing in their research and development (R&D) efforts and have been focusing more on marketing their products.

All of the companies' revenues and cash flows have shown significant increases since IPOs. It might be a result of their continued R&D investments and marketing focus, and it bodes well for the companies. Overall, all of the companies appear to be offering good opportunities for investors and it was not very surprising because IPOs are generally considered to be positive signals to the markets. However, Facebook's performance is a little surprising because of what was said about this IPO and it was listed as one of the worst IPOs of 2012.

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INTERNATIONAL PARTNERSHIPS AS A CORE STRATEGY FOR SMALL PRIVATE UNIVERSITIES IN THE MENA REGION: LESSONS FROM DUBAI

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ABSTRACT

In the fast changing education sector of today's world, many countries are treating education as an attractive exportable service that has spill over benefits for the domestic economies. While many countries are actively marketing educational services from their well-established tertiary institutions there are some countries that are trying to create educational hubs to provide good quality education to domestic and international students. Establishing a good quality international education hub requires the institutions in the hub to be of high standards because these are the basic building blocks. The paper identifies important factors that can help the stakeholders to establish a good quality tertiary institution of international standards in an emerging education hub. In many education hubs branch campuses and start-ups are often struggling to provide good quality education that meets the desired international standards. This paper addresses the opportunities and challenges of establishing a tertiary institution of high international standards and suggests a specific model that is realistic and cost effective. It is expected that the proposed model would provide a good array of broad strategic choices to universities trying to deal with their own sets of distinct goals and constraints. Since establishment of a solid international educational institution is a dynamic and evolving process, it is essential that trends and experiences are monitored and analyzed in order to generate a better understanding of this process. The paper uses the UAE education market and the strategy adopted by one specific institution as an example.

Key Words: Establishing tertiary educational institutions; Ensuring quality of education; International standards of education; Creating educational hubs.

INTRODUCTION

Worldwide demand for higher education is growing at an unprecedented rate, driven by demographic trends and increased globalisation of economies and societies. Globalization has been a very powerful vehicle for the penetration of western technology and business practices into the economies of Asia, Africa, the Middle East and South America leading to greater harmonization in the educational and training requirements of the new jobs being created in the globalized marketplace. In order to compete effectively in the increasingly competitive and knowledge-based job markets, today's students in the emerging economies need to invest more in education than did previous generations of students.

The global mobility of students has increased, quadrupling over the past three decades to 3.3 million in 2008 (OECD, 2010). UNESCO estimated a total of 2.8 million international students globally in 2007. While estimates may vary, being based on different parameters, the overall trend towards significant continuing growth is evident.

In 2008 alone growth was 11 per cent on the previous year. Should current trends in international enrolments continue it is expected that between 4.1 million to 6.7 million students will be studying abroad by the year 2020 (Calderon, 2010).

Parents and students want to know 'what is this degree worth in the global marketplace?'

When this question was asked in the recent past it was usually sufficient for a small, private institution to point to the local Ministry accreditation to assure students and parents that a high quality of education would be provided to their son or daughter. Increasingly, we are finding that this is no longer sufficient. Potential students want to know if a degree from a particular university is recognized or accredited in North America or Europe. The 2013 British Council study observed that "the world of higher education is becoming more competitive and brand conscious".[i] With respect to brand recognition, there are two important dimensions that appear to be considered. Firstly, there is the perception of the quality of the institution. But secondly, and perhaps not less importantly, is the perception of the country within which the institution is located. The developed, English speaking world has a strong competitive advantage simply because institutions from this part of the world are perceived as being 'superior' or world class. Additionally, a developed country whose native language is English will provide additional language benefits to individuals who graduate with degrees earned in these countries.

According to the UNESCO Institute of Statistics the total number of UAE's nationals studying abroad was 8,526 in March 2014, out of which 3,089 (36.23%) are hosted in the United Kingdom, 2,031(24%) in the United States, 1,133 (13%) in Australia, 748 (9%) in India, 255(3%) in Canada and 248(3%) in France. Thus the four English speaking countries accounted for 76% of all UAE students studying abroad.[ii] There are historical and important economic ties to the developed English speaking world and this has had an important impact on student decisions regarding degree completion abroad.

As the demand for Western university education has been growing it has become sufficiently clear that degrees earned in the medium of the English language provide the degree holders a greater commercial opportunity. This is evidenced by the growth in the number of students going to USA, UK, Canada, Australia, New Zealand and some other countries where the degrees are offered in English. These countries appear to have the first-rate reputation for educational quality, apart from the reputation for quality that specific institutions have earned. This in turn implies that partnering with universities from these countries, or local branches from these countries, are often deemed to have an important quality advantage.

While most of the universities in the high income regions of the world are actively recruiting international students for the home campuses some have gone a step further and opened overseas campuses in Asia, the Middle East and in other emerging markets. The number of standalone campuses in these regions that are offering Western education is growing. There are examples of Western universities and colleges in these locations that date back to the mid-20th century. Examples include Notre Dame College in Dhaka, American University of Cairo, American University in Beirut, American University in Dubai, and many more American, as well as British, Australian and a few Canadian institutions.

The United Arab Emirates has been most successful in attracting overseas campuses. The UAE now hosts 37 such branch campuses more than any other country in the world and the number of such institutions has risen rapidly over the last decade. The British Council Report *The Shape of Things to Come. (2013)* concluded that the UAE was among the most attractive locations for international universities to establish branch plant operations, largely due to attractive market conditions and a supportive and attractive regulatory environment. This rapid growth in the number of suppliers has, as we shall see, created an intensely competitive marketplace.

Finally, there are the relatively newer private universities that seek to tap into the market potential that this growing demand represents. It is simply a fact of life that there are many academically qualified students in emerging markets that cannot reasonably seek post-secondary education in an English speaking western country either because of costs or an inability to secure a student visa.

While opportunities exists, these are not without challenges. The most pressing one is how to meet quality expectations. As noted, families and students are seeking degrees that are

equivalent to, or recognized or accredited in North America or Europe. Private institutions may rely on local accreditation only, but as the next section argues, this position is being weakened by two tendencies. Firstly, in many markets such as the UAE market, the number of locally accredited institutions has grown very rapidly and, hand in hand, has been a widening in the quality of programs available. Secondly, students and families are becoming more discriminating and seeking assurance that the local university's programs are, in some sense, accepted and recognized in North America and Europe.

POST- SECONDARY EDUCATION IN THE U.A.E.

United Arab Emirates University, UAEU, first opened its doors in 1976 to 500 students, only three years after the creation of the United Arab Emirates in 1973. It is difficult to imagine how different the economic and educational landscape was in the region prior to independence. Mohammed A. J. Al Fahim describes in his book, *From Rags to Riches - A Story of Abu Dhabi (1995),* an Abu Dhabi in the 1960s almost entirely without hospitals, schools, other than Quoranic memorization schools, hardly any paved roads, and where an ability to read and write was uncommon.

Few countries in the world have changed as dramatically as the UAE since the 1970s. Glittering skyscrapers, modern highways and a metro system, luxurious tourist and shopping facilities now offer the visitor a range of choice and activities second to none. A similar transformation has taken place in the world of post-secondary education. Today there are 102 post-secondary institutions in the country, with 56 in Dubai alone. Education, up to and including university education, is free to all citizens. By 2005 literacy for adults exceeded 90% and for youths the figure was 95%. The government has been so successful in instilling in the youth of the nation recognition of the value of further education that over 75% of high school graduates apply to a post-secondary educational institution.

The UAE has been remarkably successful in attracting international campuses of foreign, usually but not always western, universities. There are 37 such branch plants[i] in the UAE, more than in any other country in the world. The recent British Council study *The Shape of Things to Come (2013)* concludes that the UAE has been one of the most successful countries in the world in attracting international educational institutions. This has been achieved by a supportive regulatory environment that facilitates fast tracking of applications as well as a very conducive market environment.

There are three main federal public post-secondary institutions in the UAE which primarily serve the local or national population; Zayed University operating in Abu Dhabi and Dubai, United Arab Emirates University in Al Ain and the Higher Colleges of Technology (HCT) operating 16 campuses in 6 cities. HCT previously provided only education up to the diploma level but it has recently been awarded degree granting status by the Ministry of Higher Education and Scientific Research (MOHESR), the federal Ministry charged with accrediting and regulating post-secondary educational institutions.

To understand the role and size of private sector post-secondary education in the UAE it is necessary to recognize that citizens make up only approximately one tenth the resident population in the UAE. In order to meet the labor requirements of the government development plans, the UAE, and Dubai in particular, has relied to a unique extent on the importation of labor; skilled, professional and unskilled, on short term but renewable labor contracts. Individuals working in the UAE on such contracts are aware that citizenship is not an option. Skilled and professional expatriate labor, recognize that their employment has always intended to be temporary; when Emiratis have acquired the skills and knowledge to take over these positions the labor contracts will not be renewed. However in reality, many professional ex-pats have lived over twenty years in the UAE and have raised families here. The children of such families comprise the core of the student body in private sector universities.

There is a major distinction between fully accredited private universities and those operating as Free Zone Institutions. The Commission for Academic Accreditation (CAA), the regulatory agency of the Ministry of Higher Education and Scientific Research that licenses

private Higher Education Institutes, had licensed 78 institutions in 2013. In addition, there were approximately 24 so-called 'Free Zone' universities operating with licenses from Emirates of Dubai and Ras Al Khaimah.

All but about six Free Zone institutions operate within two zones in Dubai International Academic City and Knowledge Village. These institutions are regulated and approved by the Knowledge and Human Development Authority (KHDA), but are not approved or recognized by the national Ministry of Education called the Ministry of Higher Education and Scientific Research (MOHESR). In practice this means that graduates from such institutions are not eligible for public sector jobs in the national government.

The Ministry urges private institutions to secure CAA accreditation, because it guarantees a certain level of quality of education. Free Zone institutions on the other hand, may be licensed by the KHDA, but the institutional and program accreditation process lacks the rigor and standards of the national system. However, to complicate matters somewhat, the Emirate of Dubai recently confirmed that it would recognize graduates of KHDA approved Free Zone institutions, for the purposes of securing government employment with the government of Dubai or any of the para-statal entities owned by the Emirate. These graduates are not eligible for federal government employment.

There are, needless to say, several important distinctions within the community of private post-secondary institutions. There are well established high quality institutions such as the American University of Sharjah and the American University of Dubai, that, although private, were established with high levels of government subsidy. Often the land, buildings, library and upkeep was paid for by the relevant Emirate.

There are also many 'branch-plants', campuses of well-known international universities established in the UAE. New York University (USA), the Sorbonne (France), Michigan State University (USA), Exeter (UK), Middlesex (UK), and many other internationally recognized universities have set up operations in the UAE within the past ten to 15 years. Some have earned a reputation for maintaining the same standard as their parent university, but not all.

Then there are many stand-alone local private universities that must try to convince students of their academic standards by virtue of CAA accreditation and their own locally earned reputations.

By any measure the recent growth in the number of private post-secondary institutions and the corresponding growth in the number of programs on offer have been explosive. As Table 1 illustrates, the number of CAA accredited institutions more than doubled between 2005 and 2013, rising from 31 to 78. The number of programs on offer rose by over 300%. The number of licensed tertiary institutions has grown at a compound annual growth rate (CAGR) of 11.68% for the period 2005-2013 whereas the number of accredited programs has grown at a CAGR of 16.17% during the same period. The 2013 British Council Study refers to this growth as "staggering.[iii]

There were 78 CAA accredited institutions in operation in 2013 in addition to the 24 Free Zone institutions. As such the UAE had 102 post-secondary institutions to serve a total population of just over 5.4 million. There are few small countries that can claim to have so many educational choices for citizens and residents. There is another aspect to the educational scene in the UAE that deserves mention. The UAE has an extremely large number of very small institutions. The three federal institutions served 45,385 students in 2013 (see Table 1) resulting in an average of 15,122 students per federal institution.

Table 1: Student Enrollment Growth 2008-2013

Type of Institution	2008	2009	2010	2011	2012	2013
Federal Institutions	33,164	35,323	38,069	39,932	41,651	45,385
Private Institutions	52,926	59,873	65,566	69,880	76,734	82,894
All Institutions	86,090	95,196	103,635	109,812	118,385	128,279
Percentage Change		10.58%	8.86%	5.96%	7.81%	8.36%

Source: CAA data and statistics- Overview of UAE Higher Education Institutions, various issues.

The situation in the private segment of this market was radically different. Here 99 private institutions served 82,894 students in 2013, for an average of only 873 students per institution. It is difficult to imagine how many of these institutions will manage to survive as private sector operations without government subsidy. Between 2008 and 2013 the total number of institutions had increased by 65% but the total number of students had increased by much less, by only 28% . Clearly the post-secondary educational market in the UAE is becoming increasingly competitive; more and more institutions were competing for a student body that is growing much less rapidly that the growth of institutions.

Table 2 shows the breakdown of national and expatriate students by type of post-secondary institution in 2013.

Table 2: Students by Nationalities in the UAE as of 2013

Emirate	UAE	GCC Countries	Other Arab Countries	Other	Total	%
Abu Dhabi	37,894	2,109	8,178	3,152	51,333	40.02%
Dubai	20,755	3,170	5,706	6,261	35,892	27.98%
Sharjah	10,430	1,764	7,902	3,225	23,321	18.18%
Ajman	2,337	1,337	4,124	1,527	9,325	7.27%
Ras Al Khaimah	2,590	85	662	509	3,846	3.00%
Fujairah	3,339	562	446	104	4,451	3.47%
Um Al Quwain	52	1	48	10	111	0.09%
Total	77,397	9,028	27,066	14,788	128,279	100%
Percentage	**60.33%**	**7.04%**	**21.10%**	**11.53%**	**100%**	**100%**

Source: CAA data and statistics- Overview of UAE Higher Education Institutions, various issues.

The nationals dominate the public federal institutions since it offers free tuition to them. Overall expatriates account for 56% of the students attending private institutions and nationals account for 44%. Students enrolled in Bachelor degree programs account for 63% of total enrolments in private post-secondary institutions and ex-pat students account for 59% of private sector enrolments at the Bachelor's level.

At the diploma level national students are better represented. Nationals account for almost 60% of private sector diploma enrolments. At the graduate level of education nationals account for 44% of total private sector enrolments.

THE QUESTION OF QUALITY AND ACCREDITATION

Such a rapid increase in the number of private institutions and the consequent decline in the number of students per institution have raised inevitable questions regarding quality.

The Ministry stipulates minimum admission requirements (typically 60% or a C grade out of high school) and institutions are free to set higher standards if they wish. However, in such a competitive market the search for students to fill classrooms has contributed to the current situation in which many private institutions set admission requirements equal to, not greater than, the minimum required by the Ministry. This means that many students are admitted with grades substantially lower than the minimum requirements set by good universities in the United States and Canada. Financial pressures also lead institutions to attempt to retain as many students as possible once enrolled.

Faculty often move from one institution to another and the wide variance in educational standards, even among the Ministry accredited universities, is widely known. This knowledge has percolated out to potential new students and their families and increasingly, local accreditation is not sufficient. Parents and students seek assurance that a degree will be 'internationally recognized'.

The federal government has recently recognized the importance of institutional quality and the uncertainty created by the rapid expansion of the number of institutions. It was recently announced that a new government 'ranking' system is going to be introduced in the UAE.[iv] Institutions are scrambling to try and determine what form this may take. Few details are available at this time.

It is not a problem for established universities from overseas, such as New York University, that award their UAE graduates the same degree that their students in New York receive. The parent university provides adequate quality control and a solid reputation.

It is less of a problem for some older private universities, such as the American University of Sharjah (AUS) or the American University of Dubai (AUD). AUS was founded in 1997 and AUD in 1995. Both have built up critical international accreditations over time. Both were established with substantial initial government investment and a key objective was to provide a standard of education on a par with reputable universities in the United States. Both hire a considerable proportion of their faculty from the United States.

The key factor however is that both institutions secured critical international accreditation for their institutions and programs. AUS for example, is accredited by the Commission on Higher Education of the Middle States Association of Colleges and Schools and by the Department of Education in the State of Delaware. In the United States any private institution that seeks to be accredited as a university must secure accreditation from one of the regional accrediting bodies, and Middle States is one such body. These accrediting bodies do occasionally review and accredit universities outside of the United States, but the process is long, gruelling and expensive. It may take three years or more to complete and its requirements effectively ensure that a foreign institution will have to have at least 8-10 years of demonstrated success and effective academic quality control prior to the commencement of the accreditation process. This kind of accreditation is very important but however, it indicates that the institution is operating at an academic level similar to a good institution in the United States and also that graduate Schools in the United States will look upon the degrees of AUS and AUD as equivalent to US degrees from similarly accredited US institutions.

AUS and AUD have also secured accreditation from critical professional associations in the fields of Engineering, Architecture and Business. In the MENA region these programs often account for over 70% of total undergraduate enrolments. The Business programs at AUS for example, are all accredited by the Association to Advance Collegiate Schools of Business (AACSB). The AACSB is known world-wide as the 'gold standard' for university Business Schools. Many fully accredited American universities do not have their Business programs accredited by the AACSB but it is instantly recognized as the standard of quality.

Similarly AUD has its Engineering programs accredited by the Accreditation Board for Engineering and Technology (ABET), which fulfills the same role for Engineering degree programs that AACSB does for Business. Within the world of engineering, if a program is ABET certified, the quality of the program will not be questioned and its graduates will be accepted around the world.

AUS has its Bachelor of Architecture program accredited by the National Architecture Accrediting Board (NAAB) in the United States. Again, NAAB certification provides the same quality assurance that ABET does for Engineering and AACSB for Business.

These are not the only relevant accreditation bodies, there are similar accreditation bodies in Europe, Canada, Australia and elsewhere whose stamp provides the degree holder with the assurance that his credential will be accepted worldwide by the best universities and potential employers.

For a private institution then, perhaps the best way to convince the marketplace that the programs of the institution are indeed world class is to secure such accreditation. However there remains a major stumbling block. NAAB, ABET, AACSB and similar accrediting bodies effectively require that an institution produce several years of graduates before it becomes realistically possible to apply for accreditation. The application and review process may take an additional two to three years. This means that the institution must survive and thrive and maintain excellent standards for perhaps eight to ten years before it may earn these kinds of accreditation.

This crowded, competitive market in the UAE is particularly a problem for newer and smaller institutions that attempt to maintain high academic standards, on a par with North American or European universities. The challenges are significant; students are becoming more brand conscious and looking for degrees recognized in North America and Europe, local Ministry accreditation means less in terms of quality than it used to as the number of accredited institutions has more than doubled in recent years and increased competition for students. What follows is an outline of a model pursued by the Canadian University which we have called the "Partnership/Articulation" model.

THE CANADIAN UNIVERSITY OF DUBAI AND THE PARTNERSHIP AND ARTICULATION MODEL

Most universities in the UAE maintain and seek to expand collaborative agreements with foreign universities. Most have Departments or Offices of International Education that seek to develop transfer agreements, student and faculty exchange programs, collaborative degree programs and so on. Most attempt to create international educational opportunities for students on the well-established understanding that exposure to foreign ideas, students, teachers is educationally broadening and a good thing in its own right.

The Canadian University of Dubai however, has gone further than this in that a core strategy of the university, established long before the university opened its doors in 2006 in Dubai, was to set the university up to be what it calls a "Portal to Canadian Education".

This approach relies on establishing and maintaining international educational standards by developing close partnerships with one or more reputable universities from, in this case, Canada, a country typically recognized as offering educational excellence. These partnerships are often quite close and involve four key factors: 1) Program curriculum is licensed from the partner university or a blue-print of the degree is used from the partner university, 2) articulation agreements are established that allow qualified students to travel to

the partner university to complete the degree at the partner university; 3) faculty hiring standards are similar to those at the foreign university and faculty typically will have western PhDs; and 4) student and faculty exchange programs or programs of visiting faculty are in place.

This model offers unique advantages to new institutions seeking to offer high quality education meeting stringent international standards, but it is not widespread in the UAE. In the UAE most educational providers fall into one of three categories: (a) public institutions serving mostly the UAE nationals; (b) branch plants of foreign universities located in the 'Free Zone' serving students form all backgrounds, and (c) private institutions located in the 'Free Zone' or regular zone serving the expatriates, international students and local students. Most free zone institutions are not accredited by the government of the UAE and hence the graduates do not qualify for government jobs.

The Canadian University of Dubai (CUD) is located outside the free zone and is accredited by the UAE Ministry of Higher Education and Scientific Research (MOHESR). The Canadian University of Dubai was established in 2006 and received initial accreditation from MOHESR. Enrolments rose from only a couple of hundred initially to over 1,000 in 2009/10 and over 2,800 in 2013/14. Undergraduate programs are now offered in Business, Communications, Engineering, Architecture and Interior Design, Health Sciences, and an MBA and a Master degree in IT Management and Governance are offered at the graduate level.

The founding principals (a group of academics from Ontario, Canada and investors from the UAE) had studied the AUS and AUD models and also the much older American Universities of Beirut and Cairo, and concluded that there would be a strong demand for credentials based on North American models and standards. While the USA was well represented in the region, Canada was not.

As well, Canada has no system of regional accreditation bodies that are permitted to accredit institutions outside of the country. In Canada provincial governments accredit universities and programs and are not permitted to offer accreditation outside of provincial borders.

The principals first explored the 'branch' model and discussions were held with Canadian institutions regarding the launch of such an institution in Dubai. These discussions were not fruitful for a number of reasons, including risk aversion on the part of Canadian institutions and regulatory difficulties. The reality is that Canada is noticeably absent in the world of international education. One finds American, British, French, Spanish, other European, Russian, Australian post-secondary institutions active in regions that welcome international universities, but there are few Canadian ventures.

The principals persisted in their vision that a uniquely Canadian approach to post-secondary education, that would facilitate the transfer of students to Canadian universities for degree completion if desired by the student, would be popular in the UAE. Attention turned to the 'Partnership/Articulation' model. This model had long been employed within Canada, especially in Alberta, to facilitate the transfer of students from two year diploma colleges to four year degree programs at universities. The principle behind such laddered-degree programs is that students may complete usually the first two years of post-secondary education in his or her local community and often at a Community College. The college and a university would sign an articulation agreement under which the university agreed to award transfer credit for the first two years of college study towards a university degree. The college would have to tailor its programs to the programs of the university in order to maximize the transfer credit award. An articulation may be on a course by course basis, or it may be on a block transfer basis. The key to success is that the institution offering the initial two years of study has to align its programs and, most critically, academic standards, to those of the receiving university.

If it were possible to develop such laddered programs, based on formal articulation agreements with respected public Canadian universities, before the university enrolled students in the programs, then the question of international recognition of the quality of education could effectively be addressed. CUD could create a 'Portal to Canadian Education' that would attract students from all over the region. Much work was done to establish these links prior to the

registration of the first student. Another crucial factor that helped the institution to gain acceptance is to have a Board of Governors that include a majority of the members who are prominent Canadian educators and business and political leaders.

The University of New Brunswick provided the Bachelor of Business Administration program an upfront "two plus two" articulation agreement that confirmed that the Canadian University of Dubai student who completed the first 60 credits of the CUD program would receive a full two years or 60 credits towards the UNB BBA degree. What it means is that CUD students enrolled in the CUD BBA would know, upfront, that all of the credits earned in the first two years of study would be accepted by UNB, providing that other entrance requirements, such as TOEFL and CGPA, were met.

Similarly, Brock University provided an articulation agreement (two plus two again) for the CUD Bachelor of Communications degree program. Centennial College (a degree granting college in Canada) provided the curriculum for the program in Computer Networking and Engineering Technology degree, an applied program in Engineering.

CUD management made a conscious decision that the faculty that taught these programs would have to meet North American standards as well and have strong backgrounds in North American, European or Australian university systems. Currently, 90% of CUD faculty have qualifications from Canada, USA, UK, Australia or other developed countries. Most of them have also teaching and work experience from the same countries. This ensures that faculty are familiar with typical western academic standards. In order to hire faculty with this background CUD has had to offer internationally competitive salary and benefit packages to faculty. This they have always done, and faculty recruitment efforts have always yielded many qualified applicants. Currently faculty includes members with PhDs from Cornell, Columbia, Yale, Rutgers, the University of Toronto, McGill, McMaster and other very highly ranked universities. CUD also often welcomes visiting faculty from Canadian universities and in 2010 hosted two Canadian Research Chair holders from well-known Canadian universities.

Academic quality assurance also rested in part on the adoption of Canadian sourced academic policies and procedures. The core academic and student policies and procedures were provided by Centennial College in Ontario, and these are being refined by comparing the standards with the partner universities. In addition, Ministry, through the CAA, mandated a model of Quality Assurance that required detailed academic reporting on the delivery of courses that went far beyond Canadian practices and ensured that either the CAA, or a Canadian university partner of CUD, could get a clear picture of what was taught in any course at any time and the depth and breadth of the assessments employed.

For example, each professor must produce what is called a 'Course File' at the end of each course. This file includes all graded final exams, a graded sampling (high, average and low grades) of each assignment, project, test or quiz or other assessments used in the course as well as answer keys for everything. The course syllabus, instructor slides and all other instructional materials used are also required to be placed in the course file and stored in a locked and secured room. The grades of all students on each assessment item are also included in the course file. This means that the CAA, or a representative from one of CUD's Canadian partners can, at any moment, review any course file and assess the coverage of exams and how difficult those exams or assignments are.

These measures proved to be successful in convincing CUD's early Canadian university partners that quality assurance policies and procedures were in place to reasonably monitor academic standards. Currently CUD has such partnerships with over a dozen Canadian universities stretching from the Atlantic to the Pacific.

CUD now successfully transfers approximately 50-60 students per year to Canadian universities and these students face few if any difficulties transferring their CUD credits to a Canadian university. More importantly, as Canadian universities that did not have articulation agreements with CUD began to see that CUD students had successfully transferred credits to other universities, this first group of universities began to accept CUD credits as well.

The situation in 2014 could hardly be better on this front. CUD students have successfully transferred their credits to the University of Toronto, McGill University, and the University of British Columbia, three of top ranked universities in Canada.[v]

CUD today promotes itself as a "Portal to Canadian Education" and it is clear to faculty and staff that this has been critical to the rapid growth of the university despite the financial crisis in 2009 and 2010. This is always the first or second issue that potential students or parents raise at educational fairs or open houses. Relatively few in fact will transfer to a Canadian university for degree completion, but the fact that Canadian universities now compete to attract these students convinces potential students and parents that the CUD degree does meet North American standards. CUD regularly hosts the recruitment events organized by the Canadian Embassy as well as visits from recruiters from Canadian universities.

This 'Partnership/Articulation' model offers a new, private institution important advantage as it seeks to establish itself and prosper in a highly competitive market such as that found in the UAE. This approach attempts to capture the reputational benefits that are associated with degrees from well-regarded western universities and the country reputation particularly associated with the English speaking developed world.

CONCLUSION

The paper has specifically focused on the opportunities and challenges faced by a new private university in the UAE. It shows that many of the challenges can essentially be tackled and overcome with the application of this 'Partnership/Articulation' model. What we have observed over the years however, is that there is a tendency to expedite the process and resort to, in many instances, short cuts which invariably compromises long term sustainability of these institutions. In education, unlike many other businesses, long term sustainability depends on transparency, accountability, establishing clear standards and meeting those standards. There can be no compromising on quality. Such compromises may buy time in the very short run but will be discovered by students and faculty before long.

The Partnership/Articulation model offers key advantages to a new institution attempting to establish itself in a crowded competitive market. In addition to the quality assurance mechanisms established by the national authorities, the additional requirement that students be prepared to meet the standards of the partner institutions effectively pushes the new institution to maintain the standards of the partner institution. Students and parents are also aware of this and this is why this model can reassure these groups of the 'quality' of the new institution at a time when it can be very difficult to ascertain quality, especially the quality of relatively young institutions. There is no reason why this model cannot successfully be applied elsewhere.

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INVESTING IN HIGH RISK-RETURN MUTUAL FUNDS: IS IT WORTH THE RISK?

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ABSTRACT

This study examines the investment performance of two high risk-return investments, high yield bonds and emerging market equities, to determine if these securities are important to the terminal wealth of individual investors with long-term investment horizons. The study uses data over the decade spanning September 1, 2004 through August 31, 2014. One-year and annualized five-year holding period returns are evaluated to determine the potential for additional return relative to the additional risk exposure. Based on relative return measures, this study concludes that investors with long-term investments horizons, holding an portfolio of equities represented by the S&P 500, would have realize diversification benefits by including high-yield bonds and emerging market equities in their portfolios.

Key words: High-risk return, mutual fund, diversified portfolios

INTRODUCTION

Most investors are aware of the importance of asset allocation in their portfolio. With this in mind, they often buy mutual funds for their personal accounts or for their retirement accounts. For many years the most popular mutual funds are those that are constructed to track the performance of a broad market equity index such as the Standard and Poor's 500 Composite Index (S&P 500). But some investors would like to also include exposure to high-yield bonds and emerging market stocks to provide higher returns and further diversification across asset classes. Nevertheless, many individuals refrain from including these securities in their portfolios because they believe that they can only achieve the high returns through an undesirable exposure to an excessive level of risk.

Markowitz (1952) defined risk as the variance of returns. He showed that an investor's best portfolio is diversified to maximize expected returns while minimizing risk. But, many investors define risk as the probability of not reaching their terminal goals. These individuals plan to invest for the long-term, i.e., more than five years. Financial advisors usually consider a planned five-year holding period as necessary for stock investments. Capital market history shows that stocks have generated high average annual returns over time periods of duration sufficient to allow oscillations of the business cycle to cancel each other.

This paper explores the long-term holding period return characteristics of junk bond and emerging market stock investments and examines whether they provide diversification benefits for the individual investor who already has a diversified stock portfolio. The analytical process followed in this paper can also be used in an investments class to show how seemingly risky investments can actually improve the performance of a portfolio.

This study is organized as follows. The first section includes a discussion on related research on junk bonds, emerging market stocks and diversification. Second, the sample and

methodology are discussed. Third, the results of the study are presented. Finally, the implications of the study are provided.

High Yield Bonds

Junk bonds sometime behave like other bonds when they move inversely to interest rates. Blume, Keim and Patel (1991) suggest that since junk bonds are unsecured and often subordinated, they also behave like equity. Fabozzi (2012) supports this by pointing out that high yield bonds represent a dynamic and unique investment opportunity because their performance has attributes of both fixed income securities and equities. Other researchers agree; see, for example, Cornell (1992), Ramaswami (1991), Zivney, Bertin and Torabzadeh (1993), and Kohers and Chieffe (1996). Altman and Nammacher (2002) observe that over the period of this study, high yield bonds have offered a very attractive risk-return tradeoff for individual investors, enabling many prudent investors to realize impressive returns.

Emerging Markets

Barry, Peavy and Rodriguez (1998) examine the performance characteristics of emerging capital markets. They find that although the stocks of firms in emerging market countries are highly volatile, they are beneficial for risk reduction when combined with stocks from developed countries. Although emerging markets have not generated compound returns as high as the returns on the U.S. stock markets, they can provide diversification benefits to investors.

Redman, Gullett and Manakyan (2000) compare the returns of five international mutual funds over three different time periods compared to the Vanguard Index 500 mutual fund and also a portfolio of U.S. stocks. Their results indicate the international mutual funds outperformed the benchmarks for the periods of 1984 – 1994 under the Sharpe and Treynor Indices. The returns of the international mutual funds declined below the U.S. stock portfolio and the Vanguard Index 500 during the time period 1990 – 1994.

Driessen and Laeven (2007) examine how international diversification can differ across countries. They find that most benefits of diversification come from investing outside of one's home region. They also state that diversification benefits have decreased over the latest twenty years of their study.

Diversified Portfolios

Thaler and Williamson (1994) find that most institutions invest 60 percent in equities and the remaining 40 percent in fixed-income securities. Questioning the wisdom of this asset allocation decision, they argue for increasing the investment in equities. Their contention is that although stock returns are more volatile than bond returns, many studies have shown that as the investment horizon increases, the chance of stock returns exceeding bond returns approaches 100 percent. Asness (1996) extends the work of Thaler and Williamson, proposing that investors who are willing to take high risk by investing fully in stocks can benefit substantially only by investing in a well-diversified equity portfolio. While contending that an individual can invest in high-risk securities and generate high returns in the long-term, he concludes that the problem of how to set up and evaluate a diversified high risk/return portfolio deserves further study.

O'Neal (1997) examines the benefits from holding more than one mutual fund in the investment portfolio. He finds that time-series diversification benefits are small but that the volatility of terminal wealth can be substantially reduced by investing in more than one mutual fund. In addition, downside risk, which is critical to many investors, declines considerably as more funds are added to a portfolio.

Fletcher and Marshall (2004) study the growth of international investment opportunities. Their study reveals diversification effects that are available to U.K. investors who invest in international unit trusts (i.e. mutual funds in the U.S.).

Berger, Pukthuanthong, and Yang (2011) investigate frontier markets from a perspective of economic integration and diversification effects. Their study builds on the prior work of Speidell

and Krohne (2007) and Jayasuriya and Shambora (2009) who show that globally diversified portfolios generate higher returns with less risk than individual domestic portfolios. The authors determine that since frontier markets have low rates of integration with world markets, substantial diversification opportunities exist.

In an exhaustive study of global equity markets over the past 150 years, Goetzmann, Li, and Rouwenhorst, (2005) discovered that the correlation structure of global equity returns shifts over time and that the benefits to international diversification is largely dependent on the number of markets to which investors have access and the relatively low correlation among these markets. Notably, this study clearly observed that the benefits of diversification are largely dependent on exposure to emerging markets.

DATA AND METHODOLOGY

The purpose of this study is to determine whether a core equity portfolio performance can be enhanced by including exposure to risky assets, particularly emerging market equities and high yield bonds. The core equity portfolio is assumed to be an equity portfolio constructed to replicate the performance of the S&P 500 index. Thus, the total returns on the S&P 500 serve as the proxy for the core, or baseline, portfolio. To this portfolio we add exposure to a risky asset, represented by equal weights of high yield (junk) bonds and emerging market stocks. Only total returns to high yield bond and emerging market equity indexes, versus managed funds, are used in this study in order to remove components of performance that may be attributable to fund management styles and/or of fees.

The Bank of America Merrill Lynch US High Yield Master II Total Return Index Value (BAMLHY) was selected to represent a high yield bond investment. This index tracks the performance of U.S. dollar-denominated corporate debt that is issued in the US domestic market. Securities in this index are rated below investment grade based on an average of Moody's, S&P, and Fitch. Each security in the index must have an outstanding value of at least $100 million, a remaining term to maturity of more than one year, and a fixed rate coupon schedule.

The Morgan Stanley Capital International Emerging Market Index (MSCIEMI) was selected to represent the emerging market equity investment. The MSCIEMI considers a market as emerging based on several factors, especially gross domestic product (GDP) per capita. As of 2014, the MSCIEMI covers over 800 securities across 23 markets and represents approximately 11 percent of world market capitalization.

In this study the investor is assumed to make an equal investment in high yield bonds and in emerging market stocks on September 1, 2004. The sample period continues until August 31, 2014, a time period of 120 months. Two different holding periods are contrasted to illustrate the benefits of investing in these securities based on the potential terminal wealth rather than on volatility. The investor may choose a one-year holding period or a five-year holding period. An investor who is concerned with the volatility of returns may be tempted to consider only short holding periods with frequent rebalancing. The investor who is concerned with terminal wealth will be more likely to hold investments for longer periods of at least five years.

The initial 12-month holding period covers the period September 1, 2004 through August 31, 2005, and the initial 60-month holding period covers the period from September 1, 2004 through August 31, 2009. Similarly, the second holding periods extend from October 1, 2004 to September 30, 2005 for the 12-month holding period sample and from October 1, 2004 through September 30, 2009 for the 60-month periods. The returns are calculated in this manner for the entire 10-year sample period such that the final holding periods extends from September 1, 2013, for the 12-month holding period, or September 1, 2009, for the 60-month holding period, through August 31, 2014. For each of the portfolios under analysis, there are 108 annualized returns in the sample of 12-month holding periods and 60 annualized returns for the sample of 60-month holding periods.

RESULTS

Table 1 presents the summary statistics for the three investment types under consideration for both the one-year and five-year holding periods. As indicated, the mean and standard deviation of the one-year annualized returns for the emerging market index was greater than the corresponding values for both the S&P 500 and the high-yield bond index. Table 1 also shows that the range for the one-year annualized returns of the emerging market sample is not only greater than the range of returns for the other two investment types, but the minimum and maximum values exceed those of the other investments.

The standard deviations and the range of values shown in Table 1 indicate that the returns of all three investment types can be quite volatile over one-year holding periods. However, the five-year annualized holding period returns have much less volatility. For the five-year annualized holding period returns, the high-yield bond index has the highest mean annualized return and lowest standard deviation when compared to the both the five-year annualized returns for of the S&P 500 and emerging market indexes.

TABLE 1

Annualized Returns of Individual Investments

	S&P 500		**BAMLHY**		**MSCIEMI**	
	1-year	**5-year**	**1-year**	**5-year**	**1-year**	**5-year**
Mean	6.97%	2.82%	9.60%	10.02%	11.97%	5.77%
Standard Deviation	18.16%	6.73%	16.00%	3.59%	30.25%	6.24%
Median	11.48%	-0.18%	7.69%	9.06%	15.08%	7.30%
Range	95.01%	23.66%	97.45%	14.59%	145.01%	20.25%
Minimum	-44.76%	-3.27%	-31.10%	5.59%	-57.57%	-5.74%
Maximum	50.25%	20.40%	66.35%	20.18%	87.45%	14.51%
Count	108	60	108	60	108	60

For the sample period the mean one-year annualized return of the S&P 500 stocks is 6.97 percent with a standard deviation of 18.16 percent, but the five-year annualized return is only 2.82 percent with a standard deviation of 6.73 percent. Over the five-year periods, compared to the S&P 500, high yield bonds appear to have higher annualized returns and lower risk while emerging market stocks offer greater return but at a higher level of risk. These findings support the expectation that financial markets tend to reward high risk with high returns. Investors who are willing to expose themselves to increased risk may invest in emerging market stocks for the higher returns. However, higher risk may also generate comparatively higher losses. The range for the emerging market series is the highest of the three types of securities. Over the sample time period, an investor in emerging market stocks could have earned as high as 145.01 percent in one year or as low as -57.57 percent. The results in Table 1 indicate that individual investors who seek higher returns can invest in either high yield bonds or emerging market stocks depending on their tolerance for risk. Both securities are risky, however, the returns on high yield bonds have lower variability than those on emerging market stocks.

Table 1 shows that the mean annualized five-year holding period return on the S&P500 is less than that of either of the high risk-return funds. Furthermore, risk as measured by either the standard deviation or range of returns, is greater for the S&P 500 returns than the risk for high yield bonds but less than that of emerging market stocks. So, for both the 12-month and 60-month holding periods, high yield bonds seem to hold the advantage of higher return and lower risk.

Risky Portfolios Characteristics

This study now tests whether investing in a risky portfolio will provide diversification benefits to an equity portfolio represented by the S&P 500 index. The risky portfolios, referred to as the risky portfolio, is created by combining equal weightings of high yield bonds and emerging

market equities. One-year and annualized five-year holding period returns for the risky portfolio were calculated and evaluated following the same procedure that was used with the individual emerging market and high yield bond index returns presented in Table 1. The summary statistics for the returns for the risky portfolio are presented in Table 2.

As shown in Table 2, the mean for the one-year returns for the risky portfolio is 10.78 percent and the mean of the annualized five-year holding period returns is 7.89 percent. As modern portfolio theory advocates, the mean return for the equally weighted risky portfolio presented in Table 2 is the equally weighted average of the stand-alone returns for the emerging markets and high yield bond indexes presented in Table 1.

The standard deviation of the one-year returns on the equally weighted portfolio is 21.56 percent and of the five-year returns is 3.74 percent. As one would expect, the standard deviation for the risky portfolio is lower than the weighted average of the standard deviations of the individual returns for the emerging markets and high yield bond indexes. This indicates that individual investors with an equity portfolio similar to the S&P 500 may realize diversification benefits by including investments in a emerging markets equities and high yield bonds.

TABLE2: Annualized Returns of the Risky Portfolio (50% BAMLHY + 50% MSCIEM)

	1-Year	**5-Year**
Mean	10.78%	7.89%
Standard Deviation	21.56%	3.74%
Median	12.76%	8.42%
Range	118.70%	15.23%
Minimum	-44.33%	1.90%
Maximum	74.37%	17.13%
Count	108	60

Effects of Diversification

Table 3 contains the summary statistics for a 50/50 portfolio that is made up of 50 percent of the risky portfolio described above and 50 percent S&P 500 equities. As Table 3 shows, the mean of the one-year returns for the 50/50 portfolio is 8.87 percent versus 6.97 percent for the mean one-year returns for the S&P 500 over the same holding period. The standard deviation for the 50/50 portfolio's one-year returns is 18.59 percent, which is slightly higher than the standard deviation of 18.16 percent for the one-year returns from the 100 percent S&P 500 portfolio.

TABLE3: Annualized Returns of the 50/50 Portfolio

	50% S&P 500:50% Risky Portfolio	
	1-Year	**5-Year**
Mean	8.87%	5.36%
Standard Deviation	18.59%	4.74%
Median	12.88%	4.08%
Range	101.88%	17.31%
Minimum	-41.41%	0.40%
Maximum	60.47%	17.70%
Count	108	60

Table 3 also shows that the mean annualized five-year returns for the 50/50 portfolio is 5.36 percent versus 2.82 percent for the 100 percent S&P 500 portfolio. It also shows that the standard deviation of annualized five-year returns for the 50/50 portfolio decreased to 4.74 percent from 6.73 percent to for the 100 percent S&P 500 portfolio.

The Sharpe (1966) measure can be used to determine if diversification benefits are realized when risky assets are added to an existing portfolio. The Sharpe measure is relevant for the investor choosing a specific fund for a major portion of their portfolio. The Sharpe measure, which measures return in excess of a riskless rate per unit of risk. Mathematically, the Sharpe measure may be expressed as:

$$S_i = \frac{R_i - RFR}{\sigma_i}$$

Where:

S_i is the Sharpe measure for investment *i*

R_i is the return on investment *i*,

RFR is the risk-free rate;

σ_i is the standard deviation of returns on investment *i*

In addition to the Sharpe measures, the coefficient of variation may be used to assess diversification benefits from adding risky assets to an existing portfolio. The coefficient or variation is a relative measure of measures risk that measures risk per unit of return as indicate in the formula:

$$CV_i = \frac{\sigma_i}{R_i}$$

Where:

CV_i is the Coefficient of Variation for investment *i*;

σ_i is the standard deviation of returns on the investment, and

.R_i is the return on investment *i*;

The left portion of Table 4 presents the Sharpe measure and the coefficient of variation for: 1) each of the three individual investment types under review in: this study, 2) the risky portfolio which consists of equal weights of emerging market equities (MSCIEMI) and high yield bonds (BAMLHY), and 3) the 50/50 portfolio that represents equal parts of the S&P 500 equities and the risky portfolio. Among the individual investment types, high yield bonds have the highest Sharpe ratio and lowest coefficient of variations for both the one-year and annualized five-year holding periods. The Sharpe measure and coefficient of variation for the risky portfolio is 0.43 and 1.79 for the one-year and five-year holding periods, respectively. The corresponding coefficient of variations are 2.00 and 0.47.

TABLE4: Sharpe Measure and Coefficient of Variation

	Sharpe Measure		**Coefficient of Variation**	
	1-Year	**5-Year**	**1-Year**	**5-Year**
S&P 500	0.30	0.24	2.61	2.39
BAMLHY	0.51	2.46	1.67	0.36
MSCIEMI	0.35	0.73	2.53	1.08
Risky Portfolio	0.43	1.79	2.00	0.47
50/50 Portfolio	0.40	0.88	2.09	0.88

Table 4 also shows that as the risky portfolio is added to the portfolio represented by the equities in the S&P 500, the Sharpe measure improves from 0.30 to 0.40 for the one-year holding period and from 0.24 to 0.88 for the five-year holding period. Similarly, the coefficient of variation improves from 2.61 to 1.09 for the one-year holding period and from 2.39 to 0.88 for the five-year holding period.

The improvement in both the Sharpe measure and coefficient of variation as the risky portfolio is added to the S&P 500 equity portfolio indicates that individual investor can realize diversification benefits as emerging market equities and high yield bonds are added to their core equity portfolios.

CONCLUSIONS

This study examines the addition of high yield bonds and emerging market stocks to a domestic equity portfolio to address the assumed importance of diversification for higher terminal wealth for individual investors. Long-term holding period returns are calculated because most small investors invest predominantly for long time periods and are largely concerned with the final outcome of their investment. The results reveal that individual investors will benefit by diversifying their holdings with more emerging market and high yield bond funds.

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THE IMPACT OF THE JOBS AND GROWTH TAX RELIEF RECONCILIATION ACT ON DIVIDENDS AND STOCK PRICES

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ABSTRACT

Prior research regarding company payout of dividends has been somewhat elusive and at times contradictory. Some extant studies find that when dividend tax rates are low, investors demand and receive greater dividend payouts. Other studies contradict that notion.

This study attempts to expand upon the two notions of distinguishing: 1. high dividend tax rates from low dividend tax rates, and 2. high growth firms from low growth firms in an attempt to address what impact each of these has on dividend policies of firms, and, ultimately the stock price of a firm.

Findings suggest that for firms paying dividends, during low dividend tax rate periods the percentage increase in dividend payments is more than double the percentage increase during high dividend tax rate periods. Also, low growth firms' percentage increase in dividend payments is greater than the percentage increase for high growth firms over the study period. From a stock price impact perspective, whether the firm is high growth or low growth, and whether the dividend tax rate is relatively high or low, all dividend paying firms studied show a positive stock price effect of dividend payments, with the greatest positive intensity occurring in the low dividend tax rate time periods, and for high growth firms.

Keywords: Tax Relief, Dividends, Stock Prices, Job Growth

INTRODUCTION

On May 28, 2003, President Bush signed the Jobs and Growth Tax Relief Reconciliation Act of 2003 (JGTRRA), the third largest tax cut in U.S. history. One of the many provisions of this act affected the tax rate on corporate dividends. Prior to the JGTRRA, dividends were taxed at the individual's income tax rate, with the highest bracket set at 35%. Beginning in 2003 the qualified dividend rate was lowered to 15%.

Extant research indicates that firms with higher dividend payouts have higher returns, which in turn positively affect stock prices [Gadarowski, Meric, Welsh, and Meric (2007), Masum (2014), Lew (2015)]. The dividend tax rate, and firm growth issues might interact with each other making it a complicated issue to determine if a dividend tax reduction has implications on how dividend-seeking investors view a firm and the resulting stock price of that firm.

The purpose of this study is to assess the effect of the JGTRRA, specifically as it relates to the reduction of the dividend tax rate. A sample of dividend-paying firms prior to the 2003 act will be compared to a sample of dividend-paying firms after enactment. In an attempt to mitigate the confounding influence of firm growth issues, and the associated demand for cash, the sample will be further partitioned by high growth and low growth firms.

LITERATURE REVIEW

Propounded by Miller and Modigliani (1961), the *Dividend Irrelevance Theory* states that with no taxes or bankruptcy costs, dividend policy is also irrelevant, indicating that there is no effect from

dividends on a company's capital structure or stock price. This theory says that investors can affect their return on a stock regardless of the stock's dividend. As such, the dividend is irrelevant to investors, meaning investors care little about a company's dividend policy since they can simulate their own.

Bird-in-the-Hand-Theory

This theory states that dividends are relevant. Total return (k) is equal to dividend yield plus capital gains. Gordon (1962), Litner (1964) took this equation and assumed that k would decrease as a company's payout increased. As such, as a company increases its payout ratio, investors become concerned that the company's future capital gains will dissipate since the retained earnings of that company will be less. This theory argues that investors value dividends more than capital gains when making decisions related to stocks. The "bird-in-the-hand" is referring to dividends received today are worth more than "two in the bush," referring to capital gains to be received in the future.

Tax-Preference Theory

Taxes are important considerations for investors, particularly when deciding between dividends and capital gains. This is known as the tax-preference theory outlined by Litzenberger and Ramaswamy (1982).

In addition to these main-line theories that have been in existence for decades, other less known theories exist. The tax-clientele theory (Elton and Gruber, 1970) holds that investors select their stock holdings to minimize the tax bite of dividends. It follows that a high-dividend tax-rate investor would avoid holding dividend-paying stocks, while a low-dividend-tax-rate investor would prefer doing so. Life cycle theory (Fama and French, 2001; Grullon, Paye, Underwood, and Weston 2011; DeAngelo, DeAngelo, and Stulz, 2006) predicts that mature firms are more likely to pay dividends due to their shrinking investment opportunity set, declining growth rate, and decreasing cost of raising external capital. Free cash flow theory (Jensen, 1986) states that managers like to keep the cash flow and reinvest it in the firm, even in projects with negative net present value. The catering theory (Baker and Wurgler, 2004) implies that managers cater to investors by paying dividends when investors put a stock price premium on dividend payers, and by not paying when investors prefer non-payers.

Due to the tax rate cut on dividends associated with the JGTRRA, the shareholders are now able to receive a higher amount of after-tax dividend due to the tax savings. This gives the taxable shareholders incentive to demand higher dividend payouts from their firm. After its implementation, many firms either increased the amount of their dividend or initiated dividends (Chetty and Saez, 2005). Brav, Graham, Harvey, and Michaely (2008) report similar findings after surveying 328 financial executives. The 2003 act also had some spillover effects. Edgerton (2010) finds that REIT's dividends also increase, even though their dividends did not qualify for the rate cut. On the other hand, Frankfurter, Kosedag, Wood, and Kim (2008) find the dividend payout increase after the act to be insignificant, while Dong, Robinson, and Veld (2005) cast doubt on the demand for more dividends in view of a reduced tax rate.

The literature also remains mixed on the relationship between firm growth needs and dividend payout. Christie and Nanda (1994) find that the growth issue is more of a mitigating factor when considering dividend payout. Jiraporn, Kim, and Kim (2011) find that firms with stronger dividend payout histories exceed growth governance issues. In fact the analysis suggests to at least keep paying dividends and even increase, but never reduce. Although these previous studies may assess growth versus dividend payout policies on an ad hoc basis, there is no attempt in any of them to control specifically for the growth issue.

HYPOTHESIS DEVELOPMENT

Chetty and Saez (2005) and Brav, Graham, Harvey, and Micaely (2008) find that firms increase dividend payouts given dividend tax decreases while Frankfurter, Kosedag, Wood, and

Kim (2008) and Dong, Robinson, and Veld (2005) cast doubt on these findings. These mixed research findings give rise to the first hypothesis, stated in the null form:

H1: There is no significant difference in dividend payout percentage change in high dividend tax periods versus low dividend tax periods.

Some dividend theories revolve the notion of free cash flow and that firms, specifically growth firms, may be more hesitant to pay out dividends in the presence of value-enhancing investment projects. Even in this area, evidence is conflicting. Christie and Nanda (1994) find that in growth firms, investment project take precedent before dividends, while Jiraporn, Kim, and Kim (2011) suggest that emphasis should be placed on the dividend payout. These findsings provide the basis of the second hypothesis, stated in the null form:

H1: There is no significant difference in dividend payout percentage change between high growth firms and low growth firms.

Extant research indicates that firms with higher dividend payouts also have higher returns, which in turn positively affect stock prices [Gadarowski, Meric, Welsh, and Meric (2007), Masum (2014), Lew (2015)]. If prior research, [Chetty and Saez, (2005), Brav, Graham, Harvey, and Michaely (2008), and Edgerton (2010)] is correct, when dividend taxes are cut, firms increase dividend payout. This would indicate that during low dividend tax periods, firms would see their stock price rise in a more significant manner than during periods of high dividend tax. This gives rise to the following hypothesis, stated in the null form:

H3: There is no significant difference in stock price effect between low dividend tax periods versus high dividend tax periods

SAMPLE

The sample consists of two study periods in which dividend paying firms issued at least one dividend in both periods. The first study period is the high dividend tax period (pre-JGTRRA), in which the tax rate was based on the taxpayer's individual tax rate and existed prior to 2003. For this time frame, the study period 1992-2002 was selected. The second study period is the low dividend tax rate period (post-JGTRRA), in which the tax rate was at 15% and represented years beginning in 2003 and going forward. For this time frame, the study period 2003-2013 was selected. Both study periods contain economic upturns and downturns, and therefore, should be considered representative of their respective periods. For those firms selected in each period, the sample was further partitioned by high growth and low growth firms. The basis for determining growth was percentage increase in total non-current assets of each firm in the study period, as identified by Compustat. Those firms falling into the top 50% of the total sample were designated as high growth firms while those firms falling into the bottom 50% of the total sample were designated as low growth firms. Table 1 contains the samples used in the study.

Table 1: Study Sample

Item	Pre-JGTRRA Period	Post-JGTRRA Period	Total
Low Growth Firms	179	192	371
High Growth Firms	301	346	647
Total Firms	480	538	1,018

METHODOLOGY

The Dow Jones News Retrieval Service (DJNRS) along with the Wall Street Journal are used to identify firms declaring dividends in each of the periods indicated in Table 1. In addition, an analysis is made of overall percentage change in dividend payout between the main samples of pre-JGTRRA and post-JGTRRA firms and sub-sample of low growth and high growth firms. These results are then analyzed through use of ANOVAs to asses any differences.

A regression, utilizing pooled, cross sectional returns is then used to assess security price effect of firms in each category and sub-set. The regression is illustrated below:

$$CAR_{it} = a + b_1UE_{it} + b_2UE_{it} + b_3UE_{it} + b_4UE_{it} + b_5MB_{it} + b_6B_{it} + b_7MV_{it} + e_{it} \quad (1)$$

Where: CAR_{it} = Cumulative abnormal return firm i, time t
a = Intercept term
b_1 = Unexpected earnings, firm i, time t, for Pre-JGTRRA low growth firms
b_2 = Unexpected earnings, firm i, time t, for Pre-JGTRRA high growth firms
b_3 = Unexpected earnings, firm i, time t, for Post-JGTRRA low growth firms
b_4 = Unexpected earnings, firm i, time t, for Post-JGTRRA high growth firm
b_5 = Market to book value of equity as proxy for growth and persistence
b_6 = Market model slope coefficient as proxy for systematic risk
b_7 = Market value of equity as proxy for firm size
e_{it} = error term for firm i, time t

The coefficient "a" measures the intercept. The coefficient b_1 is the earnings response coefficient (ERC) for dividend paying low growth firms pre-JGTRRA (2002-2012). Coefficient b_2 is the ERC representing dividend paying high growth firms pre-JGTRRA (2002-2012). The coefficient b_3 is the ERC for dividend paying low growth firms post-JGTRRA (2003-2013). The coefficient b_4 represents the ERC for dividend paying high growth firms post-JGTRRA (2003-2013). The coefficients b_5, b_6, and b_7, are assessed for any potential contributions to the ERC for all firms in the sample. To investigate the effects of the information content of the ERC, there must be some control for variables shown by prior studies to be determinants of ERC. For this reason, the variables represented by coefficients b_5 through b_7 are included in the study. Unexpected earnings (UE_i) is measured as the difference between the actual earnings (EA_i) and security market participants' expectations for earnings proxied by consensus analyst following as per Investment Brokers Estimate Service (IBES), (EX_i). The final study sample detail in Table 1 includes only those firms for which this data is available. The unexpected earnings are scaled by the firm's stock price (Pi) 180 days prior to the forecast:

$$UE_i = \frac{(EA_i - EX_i)}{P_i} \quad (2)$$

For each cross sectional sample firm, an abnormal return (AR_{it}) is generated for event days –1, 0, and +1, where day 0 is defined as the earnings release date. The Dow Jones News Retrieval Service (DJNRS) is also reviewed to insure that confounding factors, such as change of corporate ownership or form, or management change, are minimized by excluding any firms which contain

these events. The market model is utilized along with the CRSP equally-weighted market index and regression parameters are estimated between –290 and –91. Abnormal returns are then summed to calculate a cumulative abnormal return (CAR_{it}). Hypotheses three is tested by examining the ERCs associated with the unexpected earnings (i.e., b_1 through b_4).

RESULTS

Table 2: Test of Hypothesis 1

One Way ANOVA-High Tax Rate Periods Versus Low Tax Rate Periods Summary					
Groups		Count	Sum	Average	Variance
High Tax Rate Periods (2002-2012)		480	1024.3	2.134	7.829310
Low Tax Rate Periods (2003-2013)		538	2846.5	5.291	5.427891
Source of Variation	SS	*df*	MS	F-ratio	P-value
Between Groups	23040.001	1	151.78	21.512	.0000
Within Groups	28944.440	1017	5.96		
Total	51984.441	1018			
Levene Statistic	*df*1	*df*2	Two-tail Significance		
7.3291	1	1017	.001		
	t-stat	df	p-value		
Welch's t-test	1.701	1	<.020		

As indicated in Table 2, the two groups analyzed using the one-way ANOVA included the average percentage change in dividend payout for; high tax rate period firms (480), and low tax rate period firms (538). The one-way ANOVA test indicates an F-ratio of 21.512 with an associated p-value of .0000. When the Levene test was performed to assess for homogeneity of variance, a Levene statistic of 7.3291 was obtained with a significance level of .001. This test indicates significant differences in the variances of the groups.

Because the variances of the groups are not equal, there exists violation of the assumption of homogeneity across the samples. In order to account for this, The Welch's test was performed. This test assesses significance between groups when variances do not equal. Based on the Welch's test, and as indicated in Table 2, a t-statistic of 1.701 was computed with a p-value of less than .020. This indicates that the mean of the sample groups are significantly different, and thus the null hypothesis of similarity between the groups is rejected.

In addition, close analysis of Table 2 indicates that the average composite percentage change in dividend payout for the high tax rate sample was +2.134, the respective percentage change for the low tax rate sample was +5.291. This indicates that during periods of low dividend tax rates, firms exhibit a greater propensity to pay dividends.

Table 3: Test of Hypothesis 2

One Way ANOVA-Low Growth Firms Versus High Growth Firms
Summary

Groups	Count	Sum	Average	Variance
Low Growth Firms (2002-2013)	371	1897.7	5.1153	6.228125
High Growth Firms (2002-2013)	647	2653.7	4.10161	6.991264

Source of Variation	SS	*df*	MS	F-ratio	P-value
Between Groups	22487.158	1	175.67	23.647	.0000
Within Groups	30135.887	1017	3.12		
Total	52623.045	1018			

Levene Statistic	*df*1	*df*2	Two-tail Significance
6.992	1	1017	.001

	t-stat	df	p-value
Welch's t-test	1.698	1	<.025

Table 3 provides results when high growth versus low growth firms are factored in to the dividend payout issue. As indicated in Table 3, the two groups analyzed using the one-way ANOVA included the average percentage change in dividend payout for; low growth firms (371), and high growth firms (647). The one-way ANOVA test indicates an F-ratio of 23.647 with an associated p-value of .0000. When the Levene test was performed to assess for homogeneity of variance, a Levene statistic of 6.992 was obtained with a significance level of .001. This test indicates significant differences in the variances of the groups.

Because the variances of the groups are not equal, there exists violation of the assumption of homogeneity across the samples. In order to account for this, The Welch's test was performed. This test assesses significance between groups when variances do not equal. Based on the Welch's test, and as indicated in Table 3, a t-statistic of 1.698 was computed with a p-value of less than .025. This indicates that the mean of the sample groups, although fairly close, are significantly different, and thus the null hypothesis of similarity between the groups is rejected.

In addition, close analysis of Table 3 indicates that the average composite percentage change in dividend payout for the high growth firm sample was +4.10161, the respective percentage change for the low growth firm sample was +5.1153. This indicates that low growth firms, on average, exhibit a greater propensity to pay dividends.

Table 4: Test of Hypothesis 3

Model: $CAR_{it} = a + b_1UE_{it} + b_2UE_{it} + b_3UE_{it} + b_4UE_{it} + b_5MB_{it} + b_6B_{it} + b_7MV_{it} + e_{it}$

a	b_1	b_2	b_3	b_4	b_5	b_6	b_7	Adj. R^2
.22	.04	.06	.12	.20	.19	.11	.08	
(.45)	(2.28)[c]	(2.19)[c]	(1.67)[a]	(1.65)[a]	(.52)	(.39)	(.22)	.242

[a] Significant at the .01 level
[b] Significant at the .05 level
[c] Significant at the .10 level

Sample:
b_1 = 179 Pre-JGTRRA low growth firms
b_2 = 301 Pre-JGTRRA high growth firms

b_3 =	192 Post-JGTRRA low growth firms
b_4 =	346 Post-JGTRRA high growth firms
b_5 =	Market to book value of equity as proxy for growth and persistence
b_6 =	Market model slope coefficient as proxy for systematic risk
b_7 =	Market value of equity as proxy for firm size
e_{it} =	error term for firm i, time t

As indicated in Table 4, the b_1 variable representing 179 pre-JGTRRA low growth firms has a positive coefficient of .04 (.10 significance level). The b_2 variable coefficient, which represents 301 Pre-JGTRRA high growth firms is .06 (.10 significance level). The variable b_3 coefficient, reflecting 192 Post-JGTRRA low growth firms indicates a coefficient of .12 (significance at the .01 level). The b_4, the coefficient, representing 346 Post-JGTRRA high growth firms is .20 (.01 significance level). All other variables in the model are considered not significant at conventional levels.

Results suggest that investors cause greater positive stock price reaction to firms declaring dividends in a post- JGTRRA period, or when dividend tax rates are low, regardless of whether or not the firm is a low growth or high growth firm. During periods of higher dividend tax rates, stock price reaction is still positive for low growth and high growth firms but with less intensity. Since stock price reaction is significant for all samples in the regression (but at differing levels), the hypothesis stating that the groups are not significantly different cannot be overturned.

In addition, whenever regression variables are employed, there is a probability of the presence of multicollinearity within the set of independent variables which may be problematic from an interpretive perspective. To assess the presence of multicollinearity, the Variance Inflation Factor (VIP) was utilized. Values of VIP exceeding 10 are often regarded as indicating multicollinearity. In the test of hypothesis 3, a VIP of 2.6 was observed, thus indicating the non-presence of significant multicollinearity.

Conclusions

This study attempts to expand upon the two notions of distinguishing: 1. high dividend tax rates from low dividend tax rates, and 2. high growth firms from low growth firms in an attempt to address what impact each of these has on dividend policies of firms, and, ultimately the stock price of a firm.

The Jobs and Growth Tax Relief Reconciliation Act of 2003 (JGTRRA), which reduced the dividend tax rate from the individual's income tax rate to 15%, was used as a basis for this study. A sample of firms prior to the JGTRRA (i.e., high tax rate period) was compared to a sample of firms after the implementation of the JGTRRA (i.e., low tax rate period). Further, firms were partitioned into high growth and low growth categories in order to assess the dividend implications of each group.

Findings suggest that for firms paying dividends, during low dividend tax rate periods the percentage increase in dividend payments is more than double the percentage increase during high dividend tax rate periods. Also, low growth firms' percentage increase in dividend payments is greater than the percentage increase for high growth firms over the study period. From a stock price impact perspective, whether the firm is high growth or low growth, and whether the dividend tax rate is relatively high or low, all dividend paying firms studied show a positive stock price effect of dividend payments, with the greatest positive intensity occurring in the low dividend rate time periods, and for high growth firms.

This would suggest that taxing decisions do play a role in dividend policies. In addition, as found in prior studies, firms paying dividends see an ultimate increase in stock price. These

findings have implications for investors who seek dividend payouts, and for managers who wish to effectively manage their dividend policy.

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USING *REPORT TO THE NATIONS ON OCCUPATIONAL FRAUD AND ABUSE* TO STIMULATE DISCUSSION OF FRAUD IN ACCOUNTING AND BUSINESS CLASSES

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ABSTRACT: With the globalization of commerce and the interdependence of world economies, prevention of fraud has become an issue of global importance. Major corporate frauds have been discovered in not only the United States but also in France (Vivendi Universal), Italy (Parmalat), India (Satyam Computer Services), and other countries. Accounting educators need to address the issue of fraud in accounting classes so that students will be aware of both the magnitude and frequency of fraudulent financial reporting as well as other types of fraud and corruption. New accounting graduates need to understand how they can help to prevent and/or detect fraud within their organizations. One way to help raise students' awareness of fraudulent schemes and the pervasiveness of fraud is to provide them with real world data about different types of fraud, types of perpetrators, types of victims, and the magnitude of financial losses from fraud. This paper provides suggestions for using the "Report to the Nations on Occupational Fraud and Abuse," published by the Association of Certified Fraud Examiners, as a resource to provide topics for discussion and research in accounting and other classes.

Key Words: Fraud, Occupational Fraud, Global Fraud, Accounting Education

INTRODUCTION

The financial landscape has changed dramatically as a result of the globalization of commerce and the internet. There is an interdependence of world economies and capital markets more extensive than has ever existed before. A catastrophic failure of one market system potentially has effects worldwide with huge losses on an international scale. Given the dramatic changes in worldwide economies and globalization of financial markets, preventing corporate fraud is not strictly a domestic issue but has significant implications for financial markets internationally.

Across the globe we have seen instances of corporate accounting frauds. In 2002, the highly publicized United States fraud of Enron Corporation rocked the capital market system. Around the same time in Europe, Vivendi Universal (France), the world's second largest media group, was in the midst of a financial accounting scandal. In 2003, the multinational company Parmalat (Italy) had more than $8.5 billion in "missing" assets. Parmalat's fraudulent activity significantly affected insurance companies in the U. S. In the Netherlands, Royal Ahold, the world's third largest supermarket operator, was found to have overstated its 2001 and 2002 income by more than $500 million. In 2009 Satyam Computer Service (India), a company responsible for more than one-third of the outsourcing services provided to Fortune 500 companies, was found to have inflated earnings and assets in excess of $1 billion. These examples illustrate that there are no geographical limits to fraud.

National and international surveys on fraud indicate that the financial magnitude of fraud is significant and remains a problematic issue for businesses worldwide (Kroll Report, 2013/2014; ACFE report, 2014; Ernst & Young, 2014). Preventing and detecting fraud has become paramount for both domestic and international businesses. Lawmakers and standard setters have responded with increased regulatory requirements, including AICPA Statement on Auditing Standards (SAS) No. 99, Sarbanes-Oxley Act of 2002, the creation of the Public Company Accounting Oversight Board (PCAOB), SEC Post-Madoff reforms (2008) and Dodd Frank Act (2010). These requirements address corporate governance, internal controls, and auditor/accountant responsibilities for detecting and preventing fraud.

Educators must similarly respond by raising student awareness of fraud schemes, detection methods, and prevention tools. Consequently, there is an increased demand for graduating students to possess the requisite skills to detect fraud and consider the global implications of fraud.

The accounting curriculum should keep pace with the dynamic ever-changing complexities of the profession (AECC, 1990) so that graduates are prepared to detect and prevent fraudulent activities (NCFFR, 1987). Students must be exposed to domestic and global economic organizations in order to understand the roles and responsibilities of accountants in a global context (AACSB, 2015). A broader view, one taken by the NCFFR, recommends that the entire business curriculum reflect a focus on understanding factors related to fraud. Integrating fraud awareness across the business curriculum will better prepare students to combat fraudulent activities in this global economic environment.

The Association of Certified Fraud Examiners (ACFE) publishes the Report to the Nations on Occupational Fraud and Abuse (hereafter, The Report). The Report reflects the results of survey responses from thousands of professionals predominantly with accounting related backgrounds (fraud examiners, internal auditors, and accountants) in various industries. The Report's survey results detail the financial losses that result from fraud by industry and by the type of fraud scheme. It also discusses the anti-fraud control mechanisms implemented by companies and the methods used to detect fraud. The Report details the perpetrators of fraud based on several factors, including by department and by gender. After its first publication in 1996, the ACFE published its second report in 2002 and continued to publish The Report in even numbered years thereafter. Beginning in 2010, The Report evolved from primarily focusing on domestic fraud and white-collar crime to a more global focus. The Report examines both domestic and international fraud cases. It illustrates that fraud is not just a domestic issue but can be encountered in many countries throughout the world. Thus, The Report is an ideal tool to use to expose students to the implications of global fraud.

This paper suggests ways of integrating international fraud awareness into the existing curriculum using The Report as a 1) research tool for class projects, 2) resource for class discussions, and 3) link between disciplines.

LITERATURE REVIEW

In 2002 the accounting frauds brought new attention to the quality and content of accounting education. Russell and Smith (2003) implicate educators, "If we are looking for a primary contributing cause of corporate malfeasance at firms such as Enron, Equity Funding, WorldCom, Sunbeam, Arthur Andersen, and HealthSouth, we need look no further than the classrooms of college and university accounting programs that have not significantly adapted their methods of instruction or approach to accounting and management education over the last 50-60 years".

According to Dosch and Wambsganss (2003), the educational system is not the primary blame, but does share responsibility to help foster an environment that leads to well-trained employees. The challenge faced by educators is developing ways to provide students with the needed exposure to increase their fraud awareness throughout the accounting and business curriculum.

Historically, accounting programs have not kept pace with changes in the profession (AECC, 1990), not the least of which includes addressing factors associated with fraud (National Commission On Fraudulent Financial Reporting, 1987 – Treadway Commission). As early as 1954, regulators criticized higher education's lack of substantial focus on educating students about the importance of auditing, internal controls, and related topics (AAA 1954 & AAA 1955). While accounting students are technically savvy, they lack sufficient training in fraud awareness and analytical skills to explore issues in context. The egregious and highly publicized accounting scandals in the U.S. and abroad have brought increased focus on fraudulent behaviors and concerns about future professionals' ability to detect fraud.

The academic community has responded to the need for more education by 1) developing programs in forensic or fraud accounting, 2) creating discrete courses in forensic or fraud accounting, or 3) by integrating fraud concepts into auditing courses (Seda and Kramer, 2008; Meier, Kamath and He, 2010). These efforts have focused primarily on accounting courses to the exclusion of other business courses. While it is understandable that accountants must be aware of fraud signals, The Report indicates that internal auditors (13.4%) and external auditors (4.0%) account for a small percentage of the effective methods of detecting fraud in the U.S. (ACFE 2014). In the U.S., the method that most often results in fraud detection is "a tip" (38.4%) (ACFE 2014). Detecting fraud via tips is consistently the most effective method noted for each region cited in The Report since 2010. Therefore training not only accounting professionals, but also other business students, increases fraud awareness for employees throughout the organization. We therefore want to ensure that all business students have an awareness of fraud related issues in a global context.

The published Reports from 2010, 2012 and 2014 offer a source of information compiled from more than 1,000 companies in nearly 100 countries. The Report is a rich document that allows for customizability in all business courses. It is dynamic data that varies with each publication. Thus, instructors can customize projects, assignments, and class discussions.

SUGGESTIONS FOR USING THE REPORT

Research for class research projects: A research project is a broad approach without a pre-defined question. It allows students to discover and explore the differences and similarities of fraud among countries. The length of the paper may be scaled based on the size of the class. It is equally suitable for Independent Studies or a Master Thesis.

The Report may offer the opportunity to develop research questions related to global fraud. There is disaggregated data by region for 2010, 2012, and 2014 in the following areas: Detection methods, Victim organizations, Anti-fraud controls, Position of perpetrator, Gender of perpetrator, and Corruption cases.

This information provides students with an opportunity to examine the regional effect of fraud, regional differences among perpetrators of fraud, gender differences among regions, and methods used to control/detect fraud among different regions. Students may be asked to derive their own research questions from the data in The Report. The research project may require students to gather data from The Report, formulate a specific research question, and draw conclusions and interpret

the data. Students should also be required to incorporate other relevant literature, i.e. industry specific, country specific, advances in technology, etc.

Resource for Class Discussions: Post-SOX, most accounting textbooks have at least one chapter on fraud, ethics, internal controls, or other topics related to security of assets and quality of financial reporting. In addition to the textbook coverage of the aforementioned material, The Report can be incorporated to serve as an additional tool to bolster the need for concern about the security of information and need for controls. The Report (2014) includes a "Fraud Tree" that graphically displays types of fraudulent schemes under three headings: Corruption, Asset Misappropriation, and Financial Statement Fraud. This graphic can help the instructor to correlate information in the report to topics being discussed in class on a particular day.

The many charts included give many options in selecting topics appropriate for discussion with a given class. For example, Frequency of Fraud Schemes by Industry (Figure 1) allows the user to select one or more industries to compare the percentage of each type of fraud committed in each type of industry.

This could lead to a discussion of why some schemes are more prevalent in an industry than others. The discussion could also include examples of how businesses differ in their processes that might make some fraud schemes more prevalent there.

The Report indicates that a "tip" is the most common and effective detection method used by every region over the years as shown in Figure 2.

Students may be surprised however to see that "hotline" is not the most frequently used anti-fraud tool cited by The Report for all regions. On average, a hotline was implemented by about 50% of the respondents (ACFE 2014). Based on the effectiveness of tips, a hotline should be a top priority among anti-fraud tools. This is an interesting paradox that can generate a vibrant class discussion. The topic may be framed with the following question: Are companies utilizing the most effective anti-fraud tools or are they implementing tools based on statutory requirements? Examining the following tables in The Reports, Anti-fraud Controls and Detection Methods, will help guide the discussion.

Another discussion can be based on the differences in detection method by size of the organization as depicted in Figure 3. Reviewing this data provides a starting point for a discussion of the differences in types internal controls and management review between small and large businesses. The information in the report also indicates that (with the exception of Canada) fraud occurs most frequently among managers and employees rather than owners/executives. However, the financial losses attributed to owners/executives were generally higher than losses among managers and employees. Students may be challenged to discuss why lower-level employees commit fraud with a greater frequency than executives. A second discussion related to perpetrators may require students to examine the magnitude of fraud losses among the various countries. Tables related to the position of perpetrators by region indicate significant variability among the amount of loss incurred. These tables will demonstrate to students the financial impact of fraudulent behavior.

The Report provides an examination on the impact of corruption. It states, "…multinational companies often have increased corruption risks to consider." (ACFE 2014). The Reports indicate that corruption consistently accounts for a significant portion of the fraud schemes committed for every region. However, there is significant variability among the growth or decline in reported corruption cases among the reporting countries. Students can examine the difference between

corruption and other types of fraud. They may be asked to examine the extent to which corruption has increased or decreased in the various regions. Perhaps they may be able to theorize why corruption increased in some regions while in other regions corruption decreased.

Link Between Disciplines: The Report offers the opportunity to tailor research projects or class discussions to specific business disciplines. In each of the three years, The Report provides summary information that highlights the perpetrators of fraud by department. During 2010 and 2012 the ACFE provided a regional analysis of perpetrators by department as illustrated in Figure 4.

These tables provide opportunities to foster research projects and discussions in courses outside of accounting. In each of the three years, the report indicates that the following departments collectively account for more than 75% of fraud cases: accounting, operations, sales, executive/upper management, customer service, and purchasing. The departmental information provides an opportunity to focus discussions by related class or major. Discussions may include fraud schemes that are most prevalent in the respective field.

In order for students to effectively understand fraud they should know how the various schemes may be committed. The appendix of The Report provides a glossary of terms which define the various types of fraud schemes. In each course, the glossary may be reviewed and students may be asked to discuss how the specific fraud scheme could be perpetrated in their specific discipline, how fraud could be detected, and recommended anti-fraud controls. Students may also be challenged to consider the implications of fraud outside of the U.S.

Figure 1 (Source: ACFE, 2014)

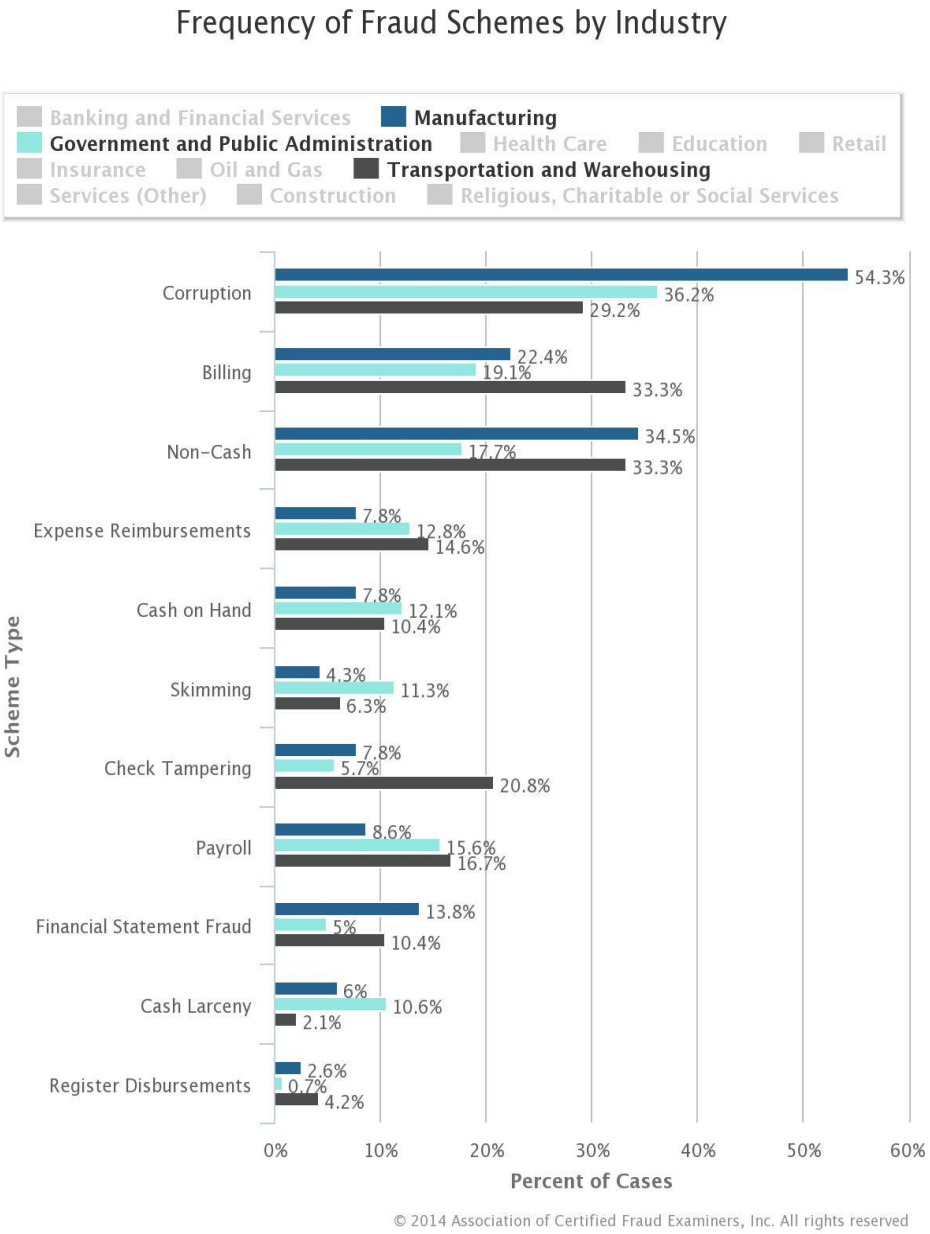


Figure 2 (Source: ACFE 2014)

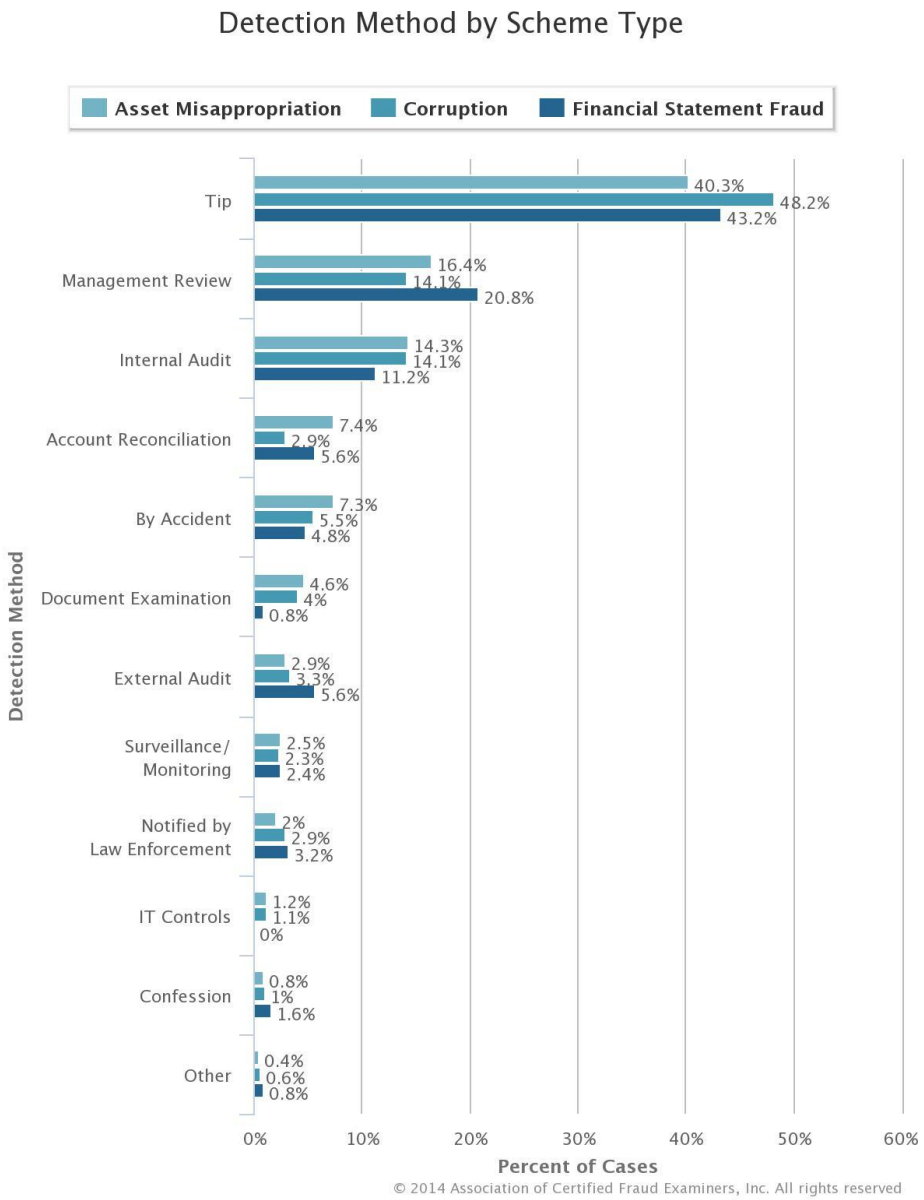


Figure 3 (Source: ACFE 2014)

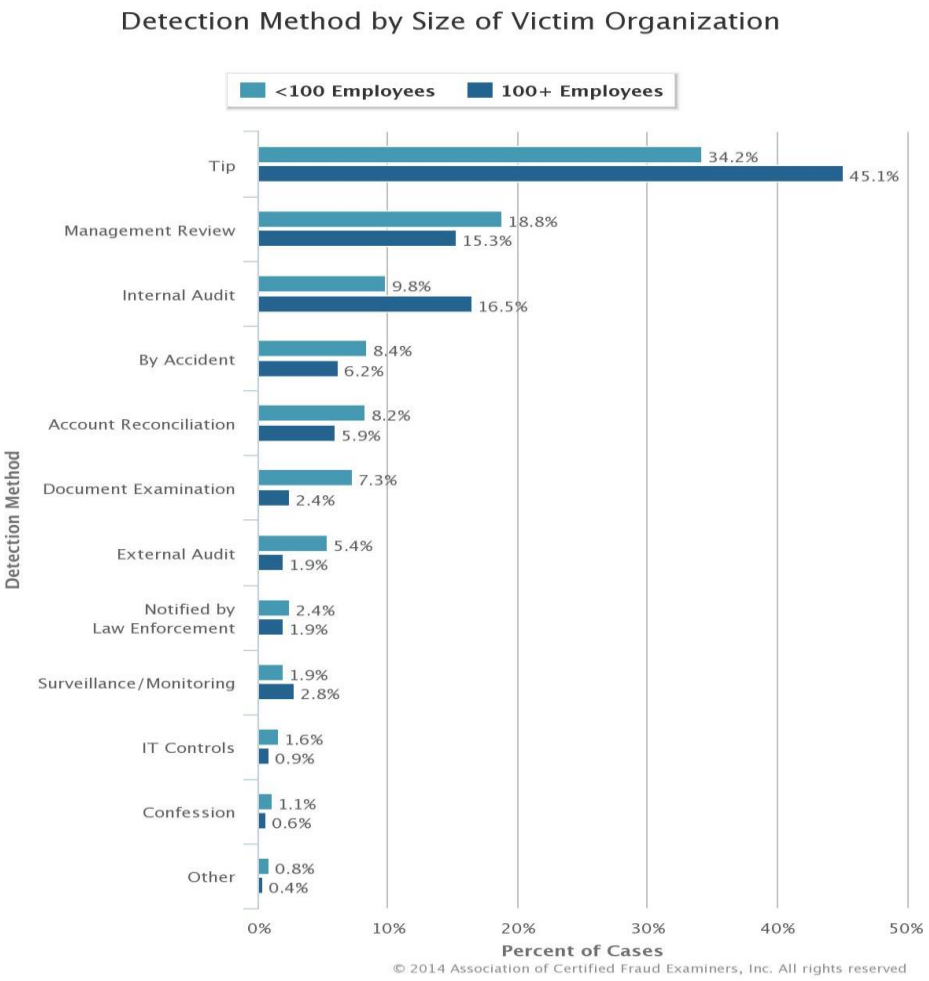
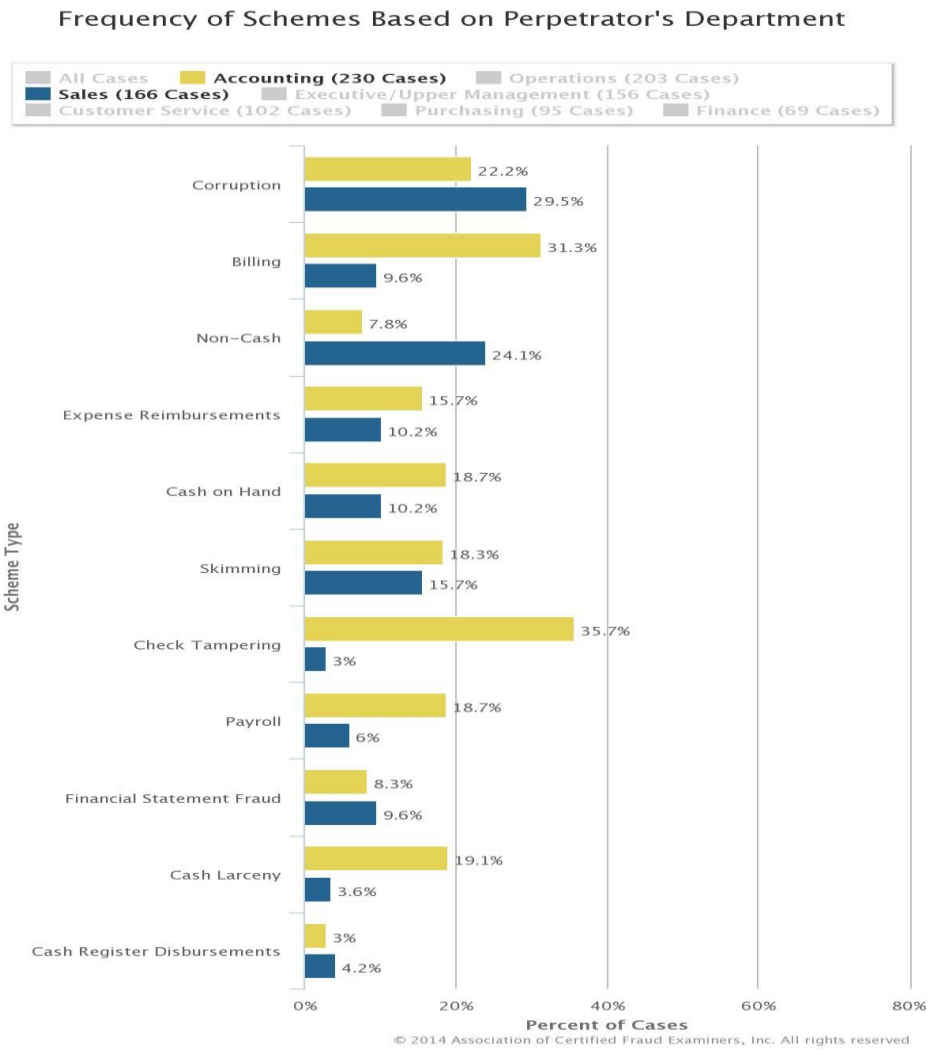


Figure 4



CONCLUSION

Fraud awareness should not be incidental to the curriculum. It is an important element in the ever increasing global environment. This paper suggests ways to supplement the existing curriculum to include increased fraud awareness. We have not limited our recommendations to accounting courses, but recommend integration and inclusion for all business courses.

Students can examine the different types of fraud as well as the differences in the types of perpetrators and geographic incidence of fraud. Students may be familiar with common types of embezzlement schemes but study of The Report can provide an opportunity to learn about less common schemes that may cause the most financial loss.

By studying The Report, students will have a better idea of what to expect in their jobs as accountants, financial executives, or auditors. The Report provides statistics that are more objective and specific than what the students may read in a textbook or hear about in the media.

Using The Report gives professors an opportunity to bridge the gap between textbook learning and the "real world" so the students gain a better understanding of what they may encounter in their careers. Finally, the geographic diversity found in the report allows students to learn about business environments in different countries before they actually travel to or conduct business in these countries. The Report is a great teaching tool to enhance business education for all students.

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PENSION FREEZES IN DELTA AIRLINES INC. AND BLONDER TONGUE LAB INC.: DIFFERENT PATHS, THE SAME FATE

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ABSTRACT: This study examines the factors associated with pension freezes involving labor unions around the Pension Protection Act of 2006 (PPA). In 2006, SFAS 158 and the Pension Protection Act significantly changed the financial reporting rules of defined benefit pension (DBP) plans. For firms with under-funded pensions, the rules increased their funding requirements, which some argued increased the likelihood these firms would choose to freeze their pensions. Using data from companies' Form 5500 Annual Reports and Compustat, we identify 230 firms with DBP plans with labor unions during 2004 to 2008, the most recent year with available data. Of these firms, there were two with frozen DBP plans in 2007: Delta Airlines Inc., which was in bankruptcy, and Blonder Tongue Lab Inc., which was in more stable financial health. Using these two firms, we conduct a case study to explore why financial health is not the deciding factor in the choice to freeze defined benefit pension plans.

Key Words: Defined Benefit Pension Plan, Pension Freeze, SFAS 158, Pension Protection Act of 2006

INTRODUCTION

This study examines the factors associated with pension freezes involving labor unions around the Pension Protection Act of 2006 (PPA). In 2006, SFAS 158 and the Pension Protection Act significantly changed how firms were required to report the financial position of their defined benefit pension (DBP) plans. The new rules required firms to make additional contributions to their pension funds if the funding status, as measured by the difference between fair value of assets and projected benefit obligation (PBO), was under-funded. As a result of the increase in pension contributions for firms with under-funded pensions, many companies faced the choice of freezing their pensions and/or filing for bankruptcy (e.g., the airline industry and steel industries).

Our overall goal was to compare firms' freeze choices before and after the new pension rules of 2006. We obtained data from the 5500-CRR database (Form 5500 Annual Reports Data Base compiled by Center for Retirement Research in Boston College) and Compustat to identify firms with DBP plans with labor unions (i.e., collective bargaining agreements) during 2004 to 2008, which is the most recent year of available data from the center. Our initial search identified 311firms, and data requirements reduce the sample to 230 firms. Of these firms, we noted that there were only two firms that decreased their service costs (as measured by Compustat data item #331) to zero in fiscal year 2007; this suggests these firms decided to freeze their DBP plans in 2007, the year after the pension rules took effect. These two firms were Delta Airlines Inc., which was in bankruptcy, and Blonder Tongue Lab Inc., which was in more stable financial health.

What is notable about Delta and Blonder Tongue is that, at the time they decided to freeze their pensions, the firms were in very different states of financial health. As both SFAS 158 and the Pension Protection Act of 2006 were taking effect, Delta was in bankruptcy. Delta explicitly

stated that its motivation in freezing its pension plan was to save costs and emerge from bankruptcy. In contrast, Blonder Tongue Labs was just returning to profitability. Blonder Tongue announced in its 10K that it was freezing its pension plan, and one factor briefly mentioned was its desire not to violate financial covenants.

These two firms serve as a real-world example that financial health may not be the main determinant of the decision to freeze pension plans. Using these two firms, we conduct a case study to explore why financial health is not the deciding factor in the choice to freeze defined benefit pension plans. Our study contributes to the literature in that this is one of the first to examine the choice to freeze pension plans before and after the 2006 time period with the SFAS and PPA requirements.

BACKGROUND

SFAS 158 and the Pension Protection Act of 2006: In September of 2006, the FASB issued SFAS 158, Employers' Accounting for Defined Benefit Pension and Other Postretirement Plans. Prior to SFAS 158, firms with defined benefit pensions plans (DBP) only had to report the pension fund status (i.e., whether it was funded or under-funded) in a footnote. After SFAS 158, firms with DBP plans had to recognize the fund status as either an asset or liability to be reported in the body of the balance sheet. This rule was argued to cause a significant increase in pension liabilities on firms' balance sheets.

Pension Protection Act of 2006 requires companies with under-funded pension plans to pay higher premiums to the Pension Benefit Guaranty Corporation (PBGC), which is a federal agency created under the ERISA. This funding requirement is a mandatory contribution for the firm, which increases costs and the likelihood that firms will choose to freeze their defined benefit pension plans.

Pension Freezes: Prior studies have examined the freeze decision around regulation changes. Beaudoin, et. al. (2010) examine whether freeze announcements of DBP plans made during 2001-2006 were motivated by accounting concerns due to the pending adoption of SFAS 158. The authors find that firms' freeze decisions are significantly associated with the *potential* SFAS 158 impact. Comprix and Muller (2011) examine pension estimates and the decision to freeze DBP plans around The Sarbanes-Oxley Act of 2002. The authors suggest that, when freezing their DBP plans, employers select downward biased accounting assumptions to exaggerate the economic burden of their benefit plans. Similarly, Kim, et. al. (2013) examine firms with and without labor unions and the decision to freeze DPB plans pre- and post-adoption period; the authors find that the decision to freeze DBP plans is significantly related to firm size and the presence of a union, and contrary to previous research, the decision is not related to the risk of the plan.

Pension freezes have been growing among industries that are unprofitable, including the airline industry. In 2005, the PBGC took over four pension plans of Chicago-based UAL Corp., then-parent of United Airlines, while the company was in Chapter 11 bankruptcy protection (as it had been since 2002). The PBGC assumed $6.6 billion of the total $9.8 billion amount that the plans were under-funded. Northwest Airlines Inc. filed for bankruptcy protection in 2005, when its plans were $5.7 billion under-funded. It froze its plans for pilots, other salaried employees, and other union employees between 2005 and 2006. Northwest disclosed in its 2006 10K that, "Effective August 31, 2005 and January 31, 2006 the Company froze future benefit accruals under the Northwest Airlines Pension Plans for Salaried and Pilot Employees, respectively." Delta and Northwest merged in 2008 under the Delta name. Similarly, the PBGC assumed $2.9 billion in liabilities from four pension plans of US Airways Group in two bankruptcy filings by the company.

DELTA AIR LINES INC. vs. BLONDER TONGUE LAB INC.

Delta Air Lines Inc.: Bankruptcy and Pension Freeze: Delta Air Lines was first founded on May 30, 1924 as a commercial agricultural flying company with a crop-dusting operation. By 1928, Delta was operating its first passenger flights over routes stretching from Dallas, Texas to Jackson, Mississippi. By the 1950s, Delta was operating internationally, and by 1966, Delta's ceased operations on its crop-dusting division and continued to focus on its passenger flights. Throughout the 1990s and 2000s, Delta expanded its services to become one of the major American airline companies.

As early as 2004, in an effort to avoid bankruptcy, Delta announced a restructuring that included job cuts and an aggressive expansion of its operations, such as making Atlanta, Georgia, a super-hub. On August 15, 2005, in an effort to obtain money to avoid bankruptcy Delta announced a deal to sell Delta Connection carrier Atlantic Southeast Airlines (ASA) to Sky West Airlines for a much lower price than analyst estimates of its worth.

Despite these efforts, Delta's financial troubles continued. In August 2005, Delta was dropped as a member of the Standard and Poor's 500 Index (Kisling 2013). On September 14, 2005, Delta filed for reorganization under Chapter 11 of the United States Bankruptcy Code. After Delta's Chapter 11 filing, its common stock was suspended by the New York Stock Exchange, and the stock was delisted on October 25, 2013.

Along with Delta's decision to file for bankruptcy, the company also decided to freeze its costly pilot pension plan. Under the terms of Delta's pilot defined benefit pension plan (DBP), pilots may retire at age 50, take out half of their total retirement benefit in a lump sum payment, and receive the rest of the retirement benefit as an annuity. Even prior to the September 2005 bankruptcy filing, Delta pilots had been blocked from receiving those lump sum payments; however, the lump sums were again scheduled to resume, which was something both the pilots union and Delta agreed the fund could not afford (Isidore 2006).

Delta's 10K for 2005 stated, "Coincident with the Chapter 11 filing, we stopped making contributions to our qualified pension plans and payments from our non-qualified pension plans for benefits earned prior to the filing." That same month, the Delta Pilots Pension Preservation Organization (DP3) filed a motion in the Bankruptcy Court to compel the continued payment of pension benefits to retired pilots.

While the Pension Protection Act of 2006, signed into law August 17, would give Delta the opportunity to preserve the defined benefit pension plan for its approximately 91,000 active and retired flight attendant and ground employees, the legislation's airline provisions did not provide the same opportunity for its pilot plan because of the plan's key features and unsupportable costs. Edward H. Bastian, Delta's executive vice president, chief financial officer and head of the company's in-court restructuring efforts, stated, "Unfortunately, the Airline Relief Act provisions provide no relief from the unaffordable costs resulting from the pilot plan's lump sum feature – expected to exceed more than $1 billion in the near term alone – that would confront Delta upon emergence from bankruptcy and beyond were the pilot plan not terminated."

In June 2006, Delta's CEO Gerald Grinstein wrote in a letter to Senator Johnny Isakson that Delta planned to terminate its pilot Defined Benefit Pension plan (DBP), a step that was essential to the long-term survival of Delta. At the time, the pilot's plan had an underfunding of $6.3 billion.

To terminate the DBP, Delta had to seek approval from the Pension Benefit Guaranty Corp. (PBGC), which is the federal agency that provides insurance for benefit plans and has the power to terminate plans under ERISA December 20, 2006, the PBGC and Judge Adlai Hardin, who was overseeing Delta's Chapter 11 restructuring, gave final approval to Delta to terminate pilot pensions. Ultimately, the PBGC took over the Delta pilots plan, assuming $920 million of a total $3 billion underfunding (Burr 2011). The company estimated that even with the termination of the

pilot plan, current Delta pilot retirees will receive on average approximately $75,200 in annualized pension benefits, including the value of the lump sum.

Delta reorganized under Chapter 11 protection in 2006, keeping one pension plan. In its 10K for the year ending December 31, 2006, Delta disclosed that they sponsored the Non-pilot DBP Plan and a separate frozen qualified defined benefit plan for certain pilots formerly employed by Western Air Lines ("Western Plan"). However, effective December 31, 2005, future pay and service accruals under the non-pilot plan were frozen as well.

Meanwhile, Delta's cost-cutting initiatives employed in late 2005 through 2007 included cutting flights at its Cincinnati hub, redeploying aircraft to other hubs, reducing non-union salaries, pilot salaries, executive salaries, and the CEO's salary (by 25%), and laying off employees. On December 19, 2006, Delta announced it had rejected U.S. Airway Group's proposed merger. The following day, December 20, 2006, Delta and its financial advisor, the Blackstone Group, declared Delta would be valued between $9.4 billion-$12 billion after emerging from bankruptcy.

On April 25, 2007, the Bankruptcy Court entered an order approving and confirming the Plan of Reorganization. The Plan of Reorganization became effective, allowing Delta to emerge from bankruptcy, on April 30, 2007.

Blonder Tongue Lab Inc.: Financial Covenants and Pension Freezes: Blonder Tongue Laboratories was founded in 1950. It is a designer and manufacturer of electronic equipment for the cable industry, and it is a principal provider of integrated network solutions and technical services to broadband service providers.

For Blonder Tongue Lab, the pension rules forced the company to increase its reported pension liability. In a 10Q filed on November 9, 2006, Blonder Tongue disclosed in Note 2 that the adoption of SFAS 158 would "increase total liabilities by approximately $50 and reduce total stockholders' equity by approximately $50." The company further emphasized that the adoption of SFAS 158 would not impact operations, cash flow, or "compliance with the Company's loan covenants."

A few months after the previous 10Q disclosure concerning the increased pension liability, Blonder tongue filed its 10K for the year ending December 31, 2006. Blonder Tongue reported net income of $342,000 for 2006, which was an improvement compared to it previously losses of -$5.5 million in 2005 and -$3.122 million in 2004. However, Blonder Tongue also disclosed its decision to freeze its pension plan. Under Note 6: Benefit Plan (page 54) Defined Benefit Pension Plan, Blonde Tongue disclosed that, "Substantially all union employees who meet certain requirements of age, length of service and hours worked per year were covered by a Company sponsored non-contributory defined benefit pension plan. Benefits paid to retirees are based upon age at retirement and years of credited service. On August 1, 2006, the plan was frozen."

Blonder Tongue's decision to freeze its pension plan in 2006 was not discussed by the company, but a potential factor in its decision could be anticipated decreased profitability in 2007 and after. For example, in the 10Q filed on August 10, 2007, Blonder Tongue stated that, "At March 31, 2007, and June 30, 2007, the Company was in violation of a certain financial covenant, compliance with which was waived by the Bank effective as of each such date." Moreover, Blonder Tongue has not had consistent profitability, as it reported two years of losses (in 2007 of -$561,000 and in 2008 of -$411,000), two years of profitability (in 2009 with net income $75,000 and in 2010 with net income of $1.785 million), then two years of losses (in 2011 of -$411,000 and 2012 of -$5.156 million).

RESULTS

In this section, we examine firms with labor unions that choose to freeze their pension plans. Table 1 shows increasing number of firms that freeze their defined benefit pension (DBP)

plans during the pre-Pension Protection Act (PPA) of 2006 versus the post-PPA period. We classify firms as having a labor union if these firms have a collective bargaining agreement during the years 2004-2008. Note that 2008 is the most recent year with available data from the Center for Retirement Research at Boston College, which is attributed to a two-year lag between the firm's fiscal year and the year the IRS filings are accepted and an additional lag for the data to be compiled by the center. As Table 1 shows, the presence of a labor union decreases the likelihood that a firm will choose to freeze its pension plan. This is consistent with the findings of Kim, et. al. (2013). Of the firms with labor unions, only two chose to freeze their pensions, and this occurred in the Post-PPA period. Of the 33 firms without labor unions that chose to freeze their plans, the freeze frequency increases in the post-PPA period, particularly in 2007 when 14 firms made this decision. Table 1 demonstrates that the Pension Protection Act of 2006 is associated with increased freezes.

Table 1
Number of Firms that Freeze Defined Benefit Pension Plans by Year

	Pre-PPA		Post-PPA			TOTAL
	2004	2005	2006	2007	2008	
Firms with Labor Unions	0	0	0	2	0	2
Firms without Labor Unions	2	6	5	14	6	33
TOTAL	2	6	5	16	6	

In Table 2, we focus on the 311 firms with DBP and labor unions. We conduct a comparison of the mean values of several variables in the year 2007 for the two firms that chose to freeze their pensions (Delta Air Lines and Blonder Tongue Labs) versus the remaining firms. We examine several measures related whether the pension plan is under-funded, with *U_FUNDED* defined as: (projected benefit obligation-plan assets) divided by total assets. A positive value of *U_FUNDED* indicates that the plan is fully funded, while a negative value means that the plan assets are not sufficient to cover the company's obligations.

As shown in Table 2, *U_FUNDED* in 2007 is significantly different for firms that choose to freeze their pensions versus all other firms with a t-statistic of -44.55, which is significant at the 1% level. The two firms that freeze their pensions have an average *U_FUNDED* value of -$1.25 million in the year after the PPA legislation. This result is consistent with these two firms choosing to freeze their funds in anticipation of disclosing the pension liability. For the firms that do not freeze their pensions, the average *U_FUNDED* value of $103,300 shows that the plan assets are sufficient to cover the obligations. Our results are consistent with those in Kim, et. al. (2013).

Table 2
Univariate Mean Tests
Difference Between Firms with Labor Unions with Non-Frozen vs. Frozen Pensions
Post-PPA Period: Year 2007

	Firms With Non-Frozen Pensions			Firms With Frozen Pensions			
	N	Mean	Std. Deviation	N	Mean	Std. Deviation	*t*
U_FUNDED	228	103.3	1,830.44	2	-1,250.40	1,768.61	-44.55****
DE	227	0.97	5.55	2	0.4	0.56	-0.15
LTD	227	0.26	0.23	2	0.12	0.17	-0.83
CFO	228	0.09	0.05	2	0.06	0.03	-0.7
Funding%	225	0.96	0.24	2	0.87	0.29	-0.54

In Table 3, we continue to examine the financial ratios for the 230 firms with DBP and labor unions, split by the decision to freeze, or not freeze, the pension plan. Recall that there are 228 firms with non-frozen pension plans, and in Table 3, we examine the median values of several key variables (as opposed to the mean values reported in Table 2). We compare median values of firms with non-frozen pensions to those of Delta Air Lines and Blonder Tongue Lab, the two companies that chose to freeze their pension plan as of 2007. During this time period, Delta Air Lines was in bankruptcy, while Blonder Tongue Labs was in a relatively healthier financial position compared to Delta.

Table 3
Firms with Labor Unions with Non-Frozen vs. Frozen Pensions
Post-PPA Period: Year 2007

	Firms With Non-Frozen Pensions		Firms With Frozen Pensions	
	N	Median	Delta Air Lines	Blonder Tongue Labs
U_FUNDED	228	0.020	-2.501	0.191
DE	227	0.570	0.790	0.001
LTD	227	0.200	0.246	0.001
CFO	228	0.070	0.042	0.081
Funding%	225	0.820	0.661	1.075

A company's debt to equity ratio (DE) indicates how much it owes its creditors and lenders. Table 3 shows that Blonder Tongue Labs (BTL)'s debt to equity ratio of 0.001 is below that of the median firm, which has a ratio of 0.57; this means that Blonder's creditors are well protected. Meanwhile, Delta Air Lines (DAL) reported a higher ratio debt to equity ratio of 0.790, and it was experiencing difficulties with rising debt back in 2007, the year when both Blonder and Delta decided to freeze their pension plans.

U_FUNDED is the difference between plan assets and the projected benefit obligation (PBO). For Delta Air Lines (DAL), the value of *U_FUNDED* was negative (-2.501), meaning that the value of plan assets fell short of the PBO. Additionally, Blonder Tongue Labs (BTL) had an overfunded plan with the value of 0.191, which is much higher than the value of *U_FUNDED* of the median firm (0.02). Thus, it is likely that for firms with underfunded plans, the pension rules SFAS 158 and PPA of 2006 force both the disclosure and increased funding requirements, which then prompts managers to freeze these plans. On the other hand, as described earlier, companies like Blonder Tongue Labs, which have an overfunded plan status, might also decide to freeze the pension plan in anticipation of decreased profitability in 2007 and after. Consequently, even when labor unions are present, these results demonstrate that financial health is not the deciding factor in the choice to freeze defined benefit pension plans, and these results are contrary to previous studies in this line of research.

SUMMARY AND CONCLUSION

Our case study examines two firms that choose to freeze their defined benefit pension plan after SFAS 158 and the Pension Protection Act of 2006 took effect. What is notable is that these two firms, with varying degrees of cash flow, chose to make the same decision. At one extreme, Delta explicitly stated that its decision to freeze its pension was made to help it remain viable after bankruptcy. On the other extreme, Blonder Tongue Labs was relatively silent regarding its choice to freeze its pension, stating only that it would not violate its financial covenants. Our study contributes to the literature by being the first to examine firms' decisions to freeze their pension plans around the SFAS 158 and PPA requirements of 2006. Our results demonstrate that financial health is not the main determinant of the decision to freeze its pension plan.

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APPENDIX A
Variable Definitions

DE	the long-term debt divided by stock holders' equity
U_FUNDED	(plan assets- projected benefit obligation) divided by total assets
LTD	the long-term debt divided by total assets
CFO	the cash flow from operations divided by total assets
Funding%	the pension plan assets divided by the projected benefit obligation

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GLOBAL LOGISTICS AND SUPPLY CHAIN RISK MANAGEMENT

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ABSTRACT: This paper studies the global supply chains management, its associated risks and how organizations of different sizes are recognizing and managing some common and frequent risks associated with global economy. Moreover, it measures and explains risk indices for different risk categories related to small, medium, and large size organizations. The results of this study display that larger size organizations have some degree of risk management dealing with global supply chains risks and they try to avoid them initially. On the contrary, the smaller size organizations are lacking the needed strategies to mitigate or to avoid global supply chains risks. This study suggests that the small and medium size organizations need to redirect their SCRM more toward avoiding and mitigating risks than accepting them. Their survival in volatile global environment depends on such changes.

Key Words: Global supply chains, logistics, risk management, risk index.

INTRODUCTION

As supply chain is becoming more global, and organizations are exploring markets in Africa, China, and Asia, the logistics of bringing demand and supply closer to each other are becoming more challenging and it raises some structural and security issues within global environment. These structural changes are constantly facing pressure to do more with less and often they are associated with geopolitical, socio-economic, technological and other risks, which require different mitigation approaches for organization to operate globally. These challenges require seeking more innovative solutions, which coupled with rising consumer expectations, can and possibly would stress traditional supply chains to near breaking points. Obviously, global supply chains' disruption and breakage can prove costly, as the supply chains are the backbone of the global economy, fueling trade, consumption, and economic growth. Therefore, as the uncertainties and risk increase in the global economy and the supply and demand imbalances become a key challenge for the companies to mitigate, the crucial role of supply chains to manage demand and supply becomes of paramount concern. Consequently, the aforementioned changes, due to globalization, require different logistics and supply chain strategies for organizations to succeed in the global markets.

This study will explore the above concerns, and it is aimed at studying the most critical issues in global logistics and supply chains through an in-depth study of organizational risk management and their strategic objectives. It is expected that the results will provide better approaches and directions for organizations to mitigate risks associated with globalizations to reduce cost and to increase responsiveness.

DEMAND AND SUPPLY MANAGEMENT IN GLOBAL ENVIRONMENT

Today, supply chains are becoming the backbone of the global economy and many governments and businesses are becoming increasingly concerned about supply chain disruptions and managing its risk mitigation. In other words, they are seeking to build and to create supply chains resiliencies through better understanding of demand and supply globally. According to the 2015 IMH industry survey (Castiglia, 2014), the demand pressure for lower prices and faster responses will be one of the major challenges for industries in the next decade. The report also highlights the need for investing in advanced technologies to support their supply chain network to satisfy the diverse global demands of constantly changing marketplaces. Moreover, the report shows that the management of this ever divers and changing market demands becomes more uncertain and complicated when the supply side of industries' supply chains are frequently and increasingly disrupted and are becoming difficult to manage. Noteworthy to know that many worldwide supply disruptions are driven by natural disasters, political unrest, labor stoppages, changing economic and political regulatory restrictions, etc., and industries should include those possibilities and their mitigation approaches into their strategic planning. Understandingly, companies that can respond to supply disruptions better and faster they would have a more competitive edge over their competitors.

Interestingly to know that although organizations can influence their global demand through pricing, advertising and other forms of promotions, but they can better manage supply strategically within their supply chains. Moreover, according to Bill Michels of Airpark consulting (Michels, 2014), the future supply chains are moving away from being cost focused to more of a focus on value. He emphasizes that the value can be created through the degree to which the suppliers can have speed to the market, new product development and innovation, integration and transparency. And, at some points industries need to emphasize on sustainability, corporate and social responsibility which customers are demanding. According to Airpark consulting report global economy brings the need for suppliers' integrations within diverse supply chains structures such as Japanese, Korean, European, and North American supply chains. That need amplifies the complexity of matching global demand and supply to create needed values.

Choices of suppliers and their chains are then becoming keys to how organizations will succeed in the challenging business environment of next decade. Those choices are strategic and are associated with major risks and uncertainties discussed earlier. Each potential supplier and its chain should be then evaluated on the aforementioned risk criteria such as financial, country and logistics risks. Those risks are often specific to products and services created, chosen locations, customers, and the chains network design. Therefore, for organizations to see the complete pictures of all risks and thus to formulate sound mitigation strategies they need to relate and measure risks to their suppliers and not to general risk statistics. Consequently, organizations global network design determines the fundamental risk categories for companies, which may be unique to them and may not be applied to others.

SUPPLY CHAINS RISKS AND RISKS MANAGEMENT

According to the earlier discussions, globalization of supply chains has made Supply Chain Risk Management (SCRM) one of the top priorities of most business entities. Whether the risk is due to natural disasters, changing government regulations, or failure of information networks, the results could potentially impact the chain members and their image, their employees, suppliers, customers, and stockholders (Fawcett, 2007). Some events, such as natural disasters are not only likely, but can have severe consequences. Thus, it is vital to detect and subsequently address them as soon as they occur. Most natural disasters are also uncontrollable, meaning that preventive

measures would not reduce the probability of their occurrence (Flynn, 2008). On the other hand, the issues in production processes are quite controllable and their risk can be managed effectively.

In a 2006 survey conducted by Accenture (Hicxsolution.com, 2014), the majority of respondents indicated that their global operations strategy has increased their supply chain risks significantly. The results highlight that the performance of supply chain partners can have more impact on their supply chain than other listed elements. Also, natural disasters, Volatility of fuel prices, and logistics capacity are listed of highly important elements. That suggests the crucial role of global network design in selecting partners, locations, and availability of resources. In other words, the global supply chain is shifting the cost cutting and risk mitigation effort to focus on distribution, logistics, and partners' reliability and away from manufacturing cost. Therefore, according to the survey, one of the important concerns is the issue of suppliers' disruptions and product availability. Subsequently, mitigating this risk and concern (suppliers' disruptions and product availability) requires creating a seamless connectivity to all supply chains partners and it should be in line with supply chain optimization effort to reduce cost.

For achieving the above goals, it is imperative for organizations to first locate where the supply chains risks may occur and how those can be measured. According to HicxSolution.com, the leading supplier information management platform provider, the supply chain disruptions are most commonly occur at its tier 1, and each company has its own distinct risks from others which should be measured, prioritized and mitigated. The ability to mobilize efforts to measure and formulate mitigations strategies are then the key to bringing global demand and supply closer to each other.

In order to acquire consistent information and to know more about supply chains risks, organizations need then to use technology to automate collecting data, distributing and communicating with all engaged partners. Moreover, the more organizations are engaged in collaborating with their suppliers the better would be the strategic relationship among them, and thus the faster information will be disclosed. Noteworthy to say that the degree to which an organization should collaborate with its suppliers depends on how critical suppliers and their roles are in the market that organization operates. Therefore, knowing the critical suppliers, their roles, and their related risk criteria should provide the necessary metrics to measure the related risks through disclosed information.

METHODOLOGY AND FINDINGS

Many companies view risk management as a project. They identify the risk factors and develop a strategy to deal with them. In fact, SCRM should be seen, instead, as an ongoing program dealing with known and unknown risks as they materialize. Christopher (2011) perceives Supply Chain Risk Management (SCRM) as a process for identifying potential negative events, determining their chance of occurrence, and assessing the severity of their impacts. In this approach, very similar to quality management process (Failure Mode and Effect Analysis, FMEA), a Risk Index (RI), which is the product of three measurements, can be calculated. The three measurements include the two aforementioned measures of probability of the occurrence and the severity of the effect, plus the ability of the process to detect the existence of the stated problems. That is,

RI = (Occurrence) X (Severity) X (Detection)

Subsequently, for reducing RI, organization should find ways to either reduce the chance or risk of occurrences, the severity of their impacts, and to improve detection capabilities, or a combination of the three measurements. The primary purpose of this study is then to evaluate the familiarity and readiness of three sizes of manufacturing organizations (Large, medium, and small) with risk factors and SCRM strategies. Also, the secondary purpose of this study is to explore how supply chain managers view SCRM.

Table 1: Familiarity of Supply Chain Mangers and Organizations with SCRM, and SCRM Formats

	Is the SCM Manager Familiar with SCRM?		Is the Organization Familiar with SCRM?		Company's Format of SCRM		
	No	Yes	No	Yes	None	Project	On Going
Size							
Large	4	12	6	10	8	4	4
Medium	15	16	20	11	24	6	1
Small	24	4	25	3	26	2	0

Surveys are administered to supply chain managers in 28 small, 31 medium and 16 large organizations by phone and in personal visits. All firms are involved in doing business globally. This study defines small firms as those that employed less than 50, medium-size firm employed 50 to less than 100, and large firms employed 100 or more employees. Tables 1 through 5 show the survey and the resulting numbers. In Table 1, the supply chain managers are asked to indicate their personal and their organizations' familiarity with their chain risk factors. Managers are also asked to indicate whether they have a formal SCRM program. Following a similar set up as in the Accenture survey (4), the risk factors are categorized as (1) economical, (2) environmental, (3) geopolitical, (4) relational, and (5) technological. Where economical risk factors include commodity and energy price volatility, customer price volatility, inflation, and regulation failures, etc.; environmental risk factors include natural disasters and land pollutions, etc.; geopolitical risk factors include corrupt and unstable governments, wars, and terrorism, etc.; relational risk factors include supplier and customer relations, etc.; and finally technological risk factors include infrastructural and communication network breakdowns, hacking, and treat from new technologies, etc.

Table 2: Probability (Low, Medium, High), Severity (Marginal, Significant, Critical), Detection Opportunity (High, Medium, Low) and Calculation of the Risk Index for Large Size Organizations

	Probability			Severity			Detection Opportunity			
	Low	Med	High	Marg	Sig	Crit	High	Med	Low	
Risk Factor										**Risk Index**
Economic	1	4	11	1	5	10	1	2	13	21.04
Environmental	2	7	7	1	8	7	0	1	15	16.65
Geopolitical	1	5	10	0	4	12	1	3	12	21.69
Societal	4	6	6	4	6	6	9	6	1	3.91
Technological	4	4	8	3	9	4	9	7	0	3.64

Table 3: Probability (Low, Medium, High), Severity (Marginal, Significant, Critical), Detection Opportunity (High, Medium, Low) and Calculation of the Risk Index for Medium Size Organizations

	Probability			Severity			Detection Opportunity			
	Low	Med	High	Marg	Sig	Crit	High	Med	Low	
Risk Factor										**Risk Index**
Economic	4	9	18	2	7	22	1	4	26	20.56
Environmental	6	10	15	5	7	19	0	0	31	18.26
Geopolitical	6	14	11	6	15	10	7	14	10	3.64
Societal	8	11	12	3	14	14	17	14	0	4.22
Technological	4	9	18	3	13	15	19	12	0	4.90

Table 4: Probability (Low, Medium, High), Severity (Marginal, Significant, Critical), Detection Opportunity (High, Medium, Low) and Calculation of the Risk Index for Small Size Organizations

	Probability			Severity			Detection Opportunity			
	Low	Med	High	Marg	Sig	Crit	High	Med	Low	
Risk Factor										**Risk Index**
Economic	1	4	23	2	4	22	0	3	25	27.16
Environmental	5	6	17	3	5	20	1	3	24	20.19
Geopolitical	10	13	5	4	14	10	4	12	12	6.75
Societal	11	10	7	2	8	18	20	8	0	2.94
Technological	5	7	16	3	10	15	19	8	1	4.73

Tables 2, 3, and 4, report the frequency of relevant risks and their probability, severity, and detection opportunity for the three groups of organizations in the survey. A low probability (score of 1) means a likelihood of occurrence of 1 in 1,000 or less, while a medium probability (score of 5) specifies a likelihood of occurrence of 1 in 20 down to 1 in 1000, and a high probability (score of 10) indicates a likelihood of occurrence of 1 in 20 or more. Furthermore, marginal severity (score of 1) means no or minor impact, significant severity (score of 5) specifies a moderate to major impact, and critical severity (score of 10) indicates a catastrophic impact on the performance of the supply chain. Finally, high detection opportunity (score of 1) means a high likelihood of detecting the risk, a medium opportunity (score of 5) specifies a good likelihood of detecting the risk, and low detection opportunity (score of 10) indicates no known methods to detect the risk until it is too late for the chain to take corrective action.

Any SCRM program that does not include a correct strategy to follow the calculation of the risk index has little or no value. Therefore, the calculation of the supply chain risk index must be followed by a very serious action plan that reduces risk. Based on this analysis, risk reduction can be achieved by reducing occurrence likelihood, severity, or detection scores. In many cases, however, it is impossible or very improbable to mitigate risks. That is why supply chain managers must develop a strategy to identify and deal with risks that might be accepted, mitigated, transferred, or avoided (3). The choice of the appropriate strategy depends on the characteristics of the risk factor and the tolerance of the organization for taking risks.

In Table 5, supply chain managers are asked to identify their chosen strategy for each of the listed risk factors.

Table 5: SCRM Strategies of Large, Medium, and Small Companies

	Acceptance			Mitigation			Transference			Avoidance		
	L	Med	S	L	Med	S	L	Med	S	L	Med	S
Risk Factor												
Economic	2	10	1	4	18	24	3	0	3	7	3	0
Environmental	5	12	14	10	19	14	0	0	0	1	0	0
Geopolitical	6	18	17	6	13	11	0	0	0	4	0	0
Societal	2	8	14	4	20	14	0	0	0	10	3	0
Technological	2	9	12	4	17	14	0	5	2	10	0	0

CONCLUSION

This paper is providing an in-depth study of the extent to which organizations are aware of the risks associated with their supply chains and how they can prepare themselves to avoid and/or to mitigate them. The results of surveying different organizations, nationwide, are presented in the Tables 1, 2, 3, and 4. Also, Table 5 presents the SCRM strategies adopted by those organizations in light of their risk awareness.

Table 1 indicates that the smaller is the size of the organizations within their supply chains the less they are aware of SCRM strategies, and therefore they put less effort to adopt one. These organizations, obviously, will be more prone to unexpected consequences and catastrophic losses. However, the small organizations are less engaged with global economy and they have lower Risk indices for relational and technological risk categories than those for the larger size organizations. On the contrary, they have much higher risk indices for other categories of risks, which can threat their steady operations when one happens. The results also highlight higher vulnerability for smaller size organizations than for the medium and larger sizes for the first three risk categories. This outcome substantiates the fact that smaller size organizations lack some SCRM strategies, which result in their higher vulnerability for the stated risk categories.

The results of the survey in Table 5 are also alarming for the small and medium size organizations. Their SCRM strategies are accepting and/or mitigating when the stated risks occur. On the contrary, the large size organizations have some provisions within their SCRM to avoid the risks when it is possible. Their strategies are heavily aimed at avoiding and mitigating the stated risks categories. Interestingly to note, from the Table 5, that all organizations perceive their supply chains elements more of their own partners, and try to avoid transferring the negative risk consequences to others within their supply chains. That, cultivates a better environment for further collaborations among the supply chains partners and thus to avoid and mitigate supply chain disruptions and their consequences. According to the results of this study, globalization is becoming a noticeable force for organizations to implement some form of SCRM to manage the stated risks. The large size organizations' risk management is directed at avoiding and mitigating the negative impacts of the risks instead of transferring those to their partners within their supply chains. On the other hand the smaller size organizations confront the risks after they are occurred and often try to adjust their operations afterward. This study suggests that the small and medium size organizations need to redirect their SCRM more toward avoiding and mitigating risks than accepting them. Their survival in volatile global environment depends on such changes

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